

|         |        |      |           |       |   |  |  |
|---------|--------|------|-----------|-------|---|--|--|
| HNEAN61 | 507302 | 3686 | 3 - 173   | 13438 | Lys-15 to Thr-26.   | H0179: 1 and S0002: 1.   |  |
| HNEAN85 | 524222 | 3687 | 148 - 300 | 13439 | Gln-26 to Gln-42.   | H0305: 2, H0306: 1, H0402: 1, H0580: 1, H0179: 1, S0052: 1, S0428: 1, S0053: 1, S0031: 1 and H0444: 1. |  |
| HNEBI66 | 529168 | 3688 | 3 - 263   | 13440 | Gly-4 to Gly-11.  | H0179: 1 and H0087: 1.   |  |
| HNEBJ08 | 958742 | 3689 | 192 - 410 | 13441 |   | AR051: 76, AR054: 73, AR050: 42<br>S0218: 1, H0179: 1 and S0428: 1.                                    |  |
| HNEBJ35 | 529576 | 3690 | 60 - 182  | 13442 | Ile-3 to Gly-8.   | H0179: 1 and H0543: 1.   |  |
| HNEBJ48 | 919274 | 3691 | 380 - 529 | 13443 | Glu-1 to Arg-11,<br>Pro-13 to Gly-22.                     | H0179: 1 and H0445: 1.   |  |
| HNEBM07 | 954173 | 3692 | 1 - 171   | 13444 | Gly-1 to Pro-9.   | H0075: 1 and H0179: 1.   |  |
| HNEBY19 | 527894 | 3693 | 142 - 294 | 13445 |   | H0179: 2   |  |
| HNEBY26 | 527891 | 3694 | 62 - 331  | 13446 |   | H0179: 2   |  |
| HNEBY30 | 523571 | 3695 | 99 - 254  | 13447 | Ile-6 to Gln-24,<br>Thr-31 to Asp-52.                     | H0179: 2   |  |
| HNEBY32 | 527889 | 3696 | 178 - 339 | 13448 |   | H0179: 2   |  |
| HNEBY34 | 507211 | 3697 | 2 - 316   | 13449 |   | H0179: 2   |  |
| HNEBY44 | 773793 | 3698 | 72 - 227  | 13450 |   | H0179: 2   |  |
| HNEBY46 | 527887 | 3699 | 252 - 386 | 13451 | Gln-3 to Ser-9,<br>Cys-18 to Trp-27,<br>Pro-34 to Pro-39. | H0179: 2   |  |
| HNEBY48 | 527895 | 3700 | 68 - 322  | 13452 |   | H0179: 2   |  |
| HNEBY71 | 527883 | 3701 | 1 - 258   | 13453 | Gly-1 to Ser-9,<br>Ser-18 to Glu-23.                      | H0179: 2   |  |
| HNECD65 | 861062 | 3702 | 27 - 308  | 13454 | Asp-1 to Gly-7.   | S0114: 1 and H0179: 1.   |  |
| HNECE07 | 954094 | 3703 | 84 - 212  | 13455 |   | L0774: 2, H0402: 1 and H0179: 1.   |  |
| HNECE14 | 927590 | 3704 | 2 - 106   | 13456 |   | H0179: 1 and H0264: 1.   |  |
| HNECF59 | 507208 | 3705 | 1 - 114   | 13457 | Lys-10 to Val-17.   | H0179: 2   |  |
| HNECF76 | 506532 | 3706 | 52 - 288  | 13458 |   | H0179: 1 and H0063: 1.   |  |
| HNECI57 | 529873 | 3707 | 1 - 168   | 13459 |   | H0179: 1 and H0271: 1.   |  |
| HNECK47 | 720588 | 3708 | 13 - 174  | 13460 |   | H0486: 1 and H0179: 1.   |  |

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| HNECK66  | 932501 | 3709 | 1 - 228   | 13461 | Arg-16 to Val-24,<br>Pro-27 to Arg-34,<br>Gln-37 to Leu-42. | S0114: 1 and H0179: 1.                                      |  |  |
| HNECK67  | 527100 | 3710 | 270 - 410 | 13462 |   | S0052: 2, H0179: 1 and<br>L0375: 1.                         |  |  |
| HNECK83  | 935045 | 3711 | 18 - 332  | 13463 | Ser-16 to Gly-22,<br>Arg-37 to His-45,<br>Val-56 to Arg-64. | H0585: 10, H0141: 2,<br>H0556: 1, H0656: 1 and<br>H0179: 1. |  |  |
| HNECL71  | 527810 | 3712 | 65 - 235  | 13464 |   | H0179: 2  |  |  |
| HNECM64  | 861031 | 3713 | 2 - 274   | 13465 | Ala-1 to Ser-8.   | H0179: 2  |  |  |
| HNECO69  | 861068 | 3714 | 24 - 137  | 13466 |   | H0179: 2  |  |  |
| HNECR93  | 529868 | 3715 | 3 - 299   | 13467 |   | H0271: 2 and H0179: 1.                                      |  |  |
| HNECS77  | 527511 | 3716 | 326 - 490 | 13468 | Trp-37 to Glu-43.   | H0436: 2, S0114: 1 and<br>H0179: 1.                         |  |  |
| HNECT70  | 958356 | 3717 | 2 - 193   | 13469 |   | H0179: 1 and S0428: 1.                                      |  |  |
| HNECV31  | 466977 | 3718 | 53 - 304  | 13470 | Pro-10 to Glu-15.   | H0179: 2 and H0521: 1.                                      |  |  |
| HNECV66  | 575633 | 3719 | 151 - 336 | 13471 |   | H0179: 2 and H0271: 1.                                      |  |  |
| HNECW09  | 968378 | 3720 | 61 - 189  | 13472 |   | H0179: 2  |  |  |
| HNECW20  | 527508 | 3721 | 200 - 505 | 13473 |   | H0179: 2  |  |  |
| HNECW35  | 855430 | 3722 | 1 - 423   | 13474 | Pro-6 to Met-11.  | H0179: 3, S0114: 1 and<br>H0581: 1.                         |  |  |
| HNECX77  | 507305 | 3723 | 88 - 363  | 13475 | Val-21 to Pro-39,<br>Thr-57 to Ser-64,<br>Pro-83 to Gln-92. | H0179: 1 and H0271: 1.<br>19q13.1                           | 164731, 172400,<br>172400, 180901,<br>180901, 221770,<br>248600, 600918,<br>602716 |  |
| HNEDD27  | 527589 | 3724 | 189 - 389 | 13476 |   | H0179: 2  |  |  |
| HNEDD80  | 507186 | 3725 | 49 - 336  | 13477 |   | H0179: 2  |  |  |
| HNEDD90  | 789187 | 3726 | 307 - 173 | 13478 | Asp-38 to Met-44.   | H0255: 1 and H0179: 1.                                      |  |  |
| HNEDE48  | 721895 | 3727 | 78 - 263  | 13479 |   | H0580: 1 and H0179: 1.                                      |  |  |
| HNEDE59  | 527060 | 3728 | 10 - 276  | 13480 | Ser-5 to Phe-18,<br>Asp-28 to Glu-43.                       | H0179: 3  |  |  |
| HNEDF71  | 572390 | 3729 | 33 - 134  | 13481 |   | H0421: 1 and H0179: 1.                                      |  |  |
| HNEDEG11 | 967643 | 3730 | 94 - 219  | 13482 | Ser-5 to Gly-19.  | H0265: 1 and H0179: 1.                                      |  |  |
| HNEDEG35 | 790570 | 3731 | 27 - 233  | 13483 |   | H0421: 1 and H0179: 1.                                      |  |  |

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| HNEDG56 | 746708 | 3732 | 163 - 339 | 13484 | Leu-13 to Gly-20.  | H0179: 2   |  |
| HNEDH54 | 527505 | 3733 | 56 - 289  | 13485 | Cys-18 to Cys-24.  | H0179: 1 and H0271: 1.   |  |
| HNEDH96 | 697747 | 3734 | 436 - 573 | 13486 |  | H0179: 1 and H0444: 1.   |  |
| HNEDI80 | 573138 | 3735 | 117 - 365 | 13487 | Arg-40 to Thr-47.  | H0179: 2   |  |
| HNEDK04 | 923910 | 3736 | 1 - 153   | 13488 |  | H0179: 2 and H0271: 1.   |  |
| HNEDK16 | 702570 | 3737 | 3 - 446   | 13489 | His-1 to Trp-8,<br>Ala-31 to Leu-37,<br>Pro-39 to Pro-50,<br>Ser-54 to Ser-73. | AR051: 13, AR054: 10,<br>AR050: 2<br>H0179: 2 and H0271: 1.                      |  |
| HNEDK22 | 527503 | 3738 | 192 - 377 | 13490 |  | S0114: 1 and H0179: 1.   |  |
| HNEDK74 | 765880 | 3739 | 84 - 203  | 13491 |  | H0657: 1, H0179: 1 and<br>H0264: 1.  |  |
| HNEDN42 | 527499 | 3740 | 1 - 192   | 13492 | Gly-27 to Lys-32,<br>Ser-45 to Pro-53.   | H0179: 2   |  |
| HNEDO95 | 573136 | 3741 | 57 - 233  | 13493 | Pro-34 to Pro-45.  | H0179: 2   |  |
| HNEDQ51 | 527816 | 3742 | 32 - 196  | 13494 |  | H0179: 2   |  |
| HNEDQ68 | 586485 | 3743 | 764 - 925 | 13495 |  | AR050: 7, AR054: 3,<br>AR051: 1<br>H0542: 2, H0318: 1, H0179:<br>1 and L0527: 1. |  |
| HNEDR48 | 683470 | 3744 | 35 - 166  | 13496 | Gln-36 to Gly-41.  | H0402: 1 and H0179: 1.   |  |
| HNEDS03 | 925091 | 3745 | 1 - 126   | 13497 | Leu-7 to Gly-12.   | H0179: 2   |  |
| HNEDS18 | 954586 | 3746 | 153 - 4   | 13498 | Arg-1 to Arg-7.  | H0179: 3   |  |
| HNEDS29 | 703032 | 3747 | 1 - 147   | 13499 |  | H0580: 1 and H0179: 1.   |  |
| HNEDU01 | 909832 | 3748 | 156 - 416 | 13500 |  | H0179: 1 and S0002: 1.   |  |
| HNEEA41 | 868102 | 3749 | 1 - 189   | 13501 |  | H0265: 1, H0650: 1 and<br>H0179: 1.  |  |
| HNEEB62 | 573185 | 3750 | 149 - 295 | 13502 | Met-17 to Trp-26.  | H0179: 2   |  |
| HNEEB84 | 781940 | 3751 | 1 - 225   | 13503 |  | H0179: 1 and H0521: 1.   |  |
| HNEEC81 | 844318 | 3752 | 108 - 320 | 13504 |  | H0179: 2   |  |
| HNEDD12 | 893698 | 3753 | 403 - 531 | 13505 | Ser-34 to Gln-43.  | H0179: 1 and S0428: 1.   |  |
| HNEDD48 | 668747 | 3754 | 329 - 577 | 13506 | Ser-14 to Ile-21.  | L0748: 2, H0556: 1, H0457:<br>1, H0179: 1 and L0455: 1.                          |  |
| HNFAA13 | 667712 | 3755 | 203 - 472 | 13507 | Glu-6 to Gly-24,<br>Cys-35 to His-46.  | H0271: 1 and H0436: 1.   |  |

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| HNFAA80  | 781578 | 3756 | 100 - 288 | 13508 | Phe-11 to Gln-20.                   | H0318: 1, H0271: 1 and H0444: 1.                     |  |
| HNFAA83  | 530295 | 3757 | 34 - 135  | 13509 | His-1 to Gln-7.                     | H0271: 2   |  |
| HNFAAD95 | 784714 | 3758 | 374 - 739 | 13510 |                                     | L0746: 3, H0436: 2, L0745: 2 and H0271: 1.           |  |
| HNFAE07  | 861069 | 3759 | 2 - 136   | 13511 |                                     | H0179: 1 and H0271: 1.                               |  |
| HNFAF40  | 861021 | 3760 | 2 - 208   | 13512 | Pro-19 to Leu-27.                   | H0271: 2   |  |
| HNFAAG69 | 530349 | 3761 | 2 - 175   | 13513 | Pro-4 to Arg-16, Tyr-36 to Asn-42.  | H0271: 2   |  |
| HNFAH45  | 662053 | 3762 | 33 - 308  | 13514 | Lys-1 to Val-7.                     | H0271: 2   |  |
| HNFB551  | 530064 | 3763 | 96 - 218  | 13515 | Ser-32 to Pro-39.                   | H0271: 2   |  |
| HNFBT11  | 967784 | 3764 | 8 - 232   | 13516 |                                     | H0271: 2   |  |
| HNFBUS3  | 861015 | 3765 | 100 - 360 | 13517 |                                     | H0255: 1 and H0271: 1.                               |  |
| HNFCI32  | 699706 | 3766 | 3 - 137   | 13518 |                                     | H0271: 1 and S0052: 1.                               |  |
| HNFCI41  | 861014 | 3767 | 271 - 546 | 13519 | Glu-2 to Pro-9.                     | S0474: 1 and H0271: 1.                               |  |
| HNFCI77  | 761390 | 3768 | 171 - 440 | 13520 | Asn-10 to His-16.                   | H0271: 1 and H0444: 1.                               |  |
| HNFCI68  | 585328 | 3769 | 2 - 121   | 13521 | Pro-1 to Leu-16.                    | H0271: 2   |  |
| HNFC504  | 927836 | 3770 | 64 - 297  | 13522 |                                     | L0766: 3, H0271: 1, S0052: 1, L0779: 1 and L0731: 1. |  |
| HNFCI27  | 529964 | 3771 | 3 - 185   | 13523 | Ala-6 to Lys-11.                    | H0271: 2   |  |
| HNFCI67  | 927833 | 3772 | 119 - 229 | 13524 |                                     | H0271: 2   |  |
| HNFCW14  | 955293 | 3773 | 2 - 193   | 13525 |                                     | H0179: 1, H0271: 1 and S0002: 1.                     |  |
| HNFCY33  | 861005 | 3774 | 168 - 401 | 13526 |                                     | H0486: 1 and H0271: 1.                               |  |
| HNFCI21  | 529867 | 3775 | 166 - 312 | 13527 |                                     | H0271: 2   |  |
| HNFCI91  | 496241 | 3776 | 7 - 294   | 13528 | Gly-61 to Gly-68.                   | H0271: 1 and S0053: 1.                               |  |
| HNFDJ17  | 960239 | 3777 | 1 - 201   | 13529 |                                     | H0271: 2 and L0600: 2.                               |  |
| HNFDK40  | 854017 | 3778 | 315 - 488 | 13530 |                                     | H0179: 1, H0271: 1 and H0444: 1.                     |  |
| HNFDN04  | 537317 | 3779 | 232 - 426 | 13531 | His-42 to Asn-49.                   | L0740: 2, H0271: 1 and H0264: 1.                     |  |
| HNFDN41  | 712571 | 3780 | 212 - 388 | 13532 | Leu-10 to Asp-15, Glu-27 to Lys-33. | H0271: 3 and H0264: 1.                               |  |
| HNFDN89  | 787085 | 3781 | 1 - 186   | 13533 |                                     | H0271: 1 and H0264: 1.                               |  |
| HNFD081  | 537341 | 3782 | 119 - 244 | 13534 |                                     | H0271: 2   |  |



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| HNFD084 | 575347 | 3783 | 126 - 437 | 13535 |  |  | H0271: 2  |  |  |
| HNFD09  | 719215 | 3784 | 2 - 265   | 13536 |  |  | H0271: 1 and S0052: 1.  |  |  |
| HNFD35  | 527500 | 3785 | 72 - 221  | 13537 |  |  | H0179: 1, H0271: 1 and L0667: 1.  |  |  |
| HNFD83  | 537343 | 3786 | 93 - 278  | 13538 |  |  | H0271: 2  |  |  |
| HNFDV41 | 537337 | 3787 | 1 - 201   | 13539 |  | Gly-1 to Val-9,<br>Gln-19 to Gln-28,<br>Leu-33 to Gly-38,<br>His-46 to Arg-56. | H0271: 2  |  |  |
| HNFD22  | 537334 | 3788 | 1 - 93    | 13540 |  | Pro-13 to Ser-18.  | H0271: 2  |  |  |
| HNFD43  | 583458 | 3789 | 13 - 336  | 13541 |  | Arg-54 to Pro-64.  | L0794: 2, L0805: 2, L0789: 2, H0271: 1, L0803: 1, L0774: 1, L0776: 1, S0053: 1 and L0589: 1.              |  |  |
|         | 583459 | 9579 | 581 - 441 | 19331 |  | Arg-21 to Arg-30.  |   |  |  |
| HNFEF43 | 424792 | 3790 | 188 - 343 | 13542 |  | Leu-13 to Gly-18,<br>Glu-29 to Trp-34.   | H0271: 3  |  |  |
| HNFEF83 | 850982 | 3791 | 190 - 516 | 13543 |  | Pro-1 to Ala-7,<br>Leu-26 to Ser-35.   | AR051: 12, AR054: 1, AR050: 1<br>H0580: 3, H0254: 2, H0521: 2, H0656: 1, H0457: 1, H0271: 1 and H0488: 1. |  |  |
| HNFEF95 | 971171 | 3792 | 227 - 469 | 13544 |  | Lys-19 to Tyr-29,<br>Ser-56 to Val-67.   | H0271: 1 and S0052: 1.  |  |  |
| HNFEF09 | 526641 | 3793 | 154 - 261 | 13545 |  |  | H0179: 1 and H0271: 1.  |  |  |
| HNFEF31 | 934595 | 3794 | 242 - 346 | 13546 |  |  | H0271: 1, L0766: 1 and H0522: 1.  |  |  |
| HNFEH12 | 825406 | 3795 | 1 - 147   | 13547 |  | Asp-29 to Cys-36.  | H0271: 2  |  |  |
| HNFEH12 | 518245 | 3796 | 19 - 108  | 13548 |  | Ala-14 to Ser-29.  | H0271: 2  |  |  |
| HNFEK33 | 957396 | 3797 | 1 - 267   | 13549 |  |  | H0637: 1 and H0271: 1.  |  |  |
|         | 971651 | 9580 | 911 - 759 | 19332 |  | His-41 to Leu-51.  |   |  |  |
| HNFEM76 | 860967 | 3798 | 136 - 375 | 13550 |  |  | S0052: 3, H0271: 1 and H0521: 1.  |  |  |
| HNFEM86 | 537336 | 3799 | 91 - 243  | 13551 |  |  | H0271: 2  |  |  |
| HNFEN20 | 669916 | 3800 | 15 - 389  | 13552 |  | Ser-2 to Glu-10,<br>Gly-12 to Gly-17.  | H0271: 1 and S0053: 1.  |  |  |

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| HNFE061 | 530355 | 3801 | 2 - 148   | 13553 |  |  | H0271: 2   |   |
| HNFER89 | 787086 | 3802 | 152 - 370 | 13554 | Gly-9 to Ser-28.                       |  | H0271: 1 and S0428: 1.                               |   |
| HNFE544 | 860920 | 3803 | 2 - 274   | 13555 | Pro-42 to Asp-47.                      |  | H0271: 2   |   |
| HNFEU62 | 574398 | 3804 | 1 - 87    | 13556 |  |  | H0271: 2   |   |
| HNFEV41 | 575549 | 3805 | 1 - 87    | 13557 |  |  | H0271: 2, L0768: 1 and L0794: 1.                     |   |
| HNFEV66 | 575552 | 3806 | 1 - 111   | 13558 | Gly-6 to Arg-11.                       |  | H0271: 2   |   |
| HNFFB21 | 671263 | 3807 | 134 - 439 | 13559 |  |  | H0271: 1 and S0144: 1.                               |   |
| HNFFC21 | 574693 | 3808 | 281 - 415 | 13560 | Arg-4 to Ala-14.                       |  | H0271: 2 and H0556: 1.                               |   |
| HNFFD88 | 577422 | 3809 | 59 - 220  | 13561 | Asp-11 to Glu-17,<br>Lys-24 to Gly-32. |  | H0271: 1 and H0416: 1.                               |   |
| HNFF81  | 574678 | 3810 | 2 - 67    | 13562 |  |  | H0271: 2   |   |
| HNFFG79 | 781693 | 3811 | 1 - 192   | 13563 | Lys-12 to Val-17.                      |  | H0271: 2   |   |
| HNFFH03 | 921923 | 3812 | 45 - 185  | 13564 | Gly-7 to Glu-16,<br>Asp-34 to Glu-39.  |  | L0439: 4, H0402: 1, H0271: 1, L0438: 1 and H0444: 1. |   |
| HNFFH04 | 574679 | 3813 | 10 - 174  | 13565 | Lys-14 to Asp-24.                      |  | H0271: 2 and H0486: 1.                               |   |
| HNFFJ48 | 860311 | 3814 | 2 - 238   | 13566 |  |  | H0271: 1 and S0428: 1.                               |   |
| HNFFK15 | 920748 | 3815 | 29 - 202  | 13567 |  |  | H0271: 2   |   |
| HNFFK36 | 529978 | 3816 | 3 - 239   | 13568 |  |  | H0271: 2   |   |
| HNFFK61 | 740644 | 3817 | 118 - 315 | 13569 | Ala-1 to Lys-8,<br>Gly-32 to Gly-37.   |  | H0271: 3 and L0766: 1.                               |   |
| HNFFM25 | 705856 | 3818 | 481 - 738 | 13570 | Glu-6 to Val-14.                       |  | H0271: 2 and L0596: 1.                               | 6 |
| HNFFO61 | 742049 | 3819 | 20 - 343  | 13571 |  |  | H0581: 1 and H0271: 1.                               |   |
| HNFFO76 | 727306 | 3820 | 60 - 200  | 13572 | Glu-3 to Pro-15,<br>Leu-19 to Ser-26.  |  | H0271: 1 and S0002: 1.                               |   |
| HNFFR05 | 860851 | 3821 | 137 - 397 | 13573 | Asp-38 to Arg-54.                      |  | H0271: 2   |   |
| HNFFR46 | 574618 | 3822 | 1 - 162   | 13574 |  |  | H0271: 2   |   |
| HNFFS14 | 558192 | 3823 | 69 - 236  | 13575 |  |  | H0271: 3   |   |
| HNFFS23 | 574677 | 3824 | 102 - 233 | 13576 |  |  | H0271: 2   |   |
| HNFFS46 | 574669 | 3825 | 41 - 169  | 13577 |  |  | H0271: 2   |   |
| HNFFS96 | 860904 | 3826 | 1 - 102   | 13578 | Ser-14 to Gly-21.                      |  | H0271: 2   |   |
| HNFFT30 | 574616 | 3827 | 3 - 242   | 13579 |  |  | H0271: 2   |   |
| HNFFT62 | 574623 | 3828 | 189 - 404 | 13580 |  |  | H0271: 2   |   |
| HNFFT71 | 574617 | 3829 | 2 - 187   | 13581 | Ala-1 to Arg-6.                        |  | H0271: 2   |   |
| HNFFT83 | 506711 | 3830 | 2 - 424   | 13582 | Val-31 to Tyr-66,                      |  | H0271: 2   |   |

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| HNFFV05 | 932364 | 3831 |  |           |       |  | Gly-68 to Leu-73.   |  |  |  | H0271: 3  |  |
| HNFFV66 | 574153 | 3832 |  | 112 - 264 | 13583 |  |   |  |  |  | H0271: 2  |  |
| HNFFV73 | 574143 | 3833 |  | 200 - 322 | 13584 |  | Met-11 to Val-16.   |  |  |  | H0271: 2  |  |
| HNFFX21 | 574217 | 3834 |  | 94 - 267  | 13585 |  |   |  |  |  | H0271: 2  |  |
|         |        |      |  | 190 - 321 | 13586 |  | Ser-1 to Asp-11,<br>Leu-13 to Gly-25.                       |  |  |  | H0402: 1 and H0271: 1.  |  |
| HNFFX55 | 574218 | 3835 |  | 195 - 461 | 13587 |  | Asn-1 to Trp-7,<br>Ala-14 to Pro-19,<br>Val-30 to Ser-35.   |  |  |  | H0271: 2  |  |
| HNFFX79 | 574152 | 3836 |  | 1 - 219   | 13588 |  |   |  |  |  | H0271: 2  |  |
| HNFFZ53 | 526845 | 3837 |  | 75 - 245  | 13589 |  |   |  |  |  | H0271: 3  |  |
| HNFFZ89 | 913701 | 3838 |  | 256 - 534 | 13590 |  | Lys-1 to Glu-7,<br>Asn-9 to Phe-14,<br>Asn-71 to Ile-80.    |  |  |  | H0271: 1, H0416: 1, L0758:<br>1 and H0543: 1.                                       |  |
| HNFFZ91 | 860897 | 3839 |  | 59 - 235  | 13591 |  | Lys-1 to Ile-13,<br>Ser-21 to Arg-27.                       |  |  |  | AR050: 34, AR051: 30,<br>AR054: 28<br>H0179: 1, H0271: 1, S0428:<br>1 and H0543: 1. |  |
| HNFGB37 | 577342 | 3840 |  | 2 - 100   | 13592 |  | Val-3 to Ser-13.  |  |  |  | H0271: 1 and H0416: 1.  |  |
| HNFGC17 | 860899 | 3841 |  | 23 - 361  | 13593 |  | Leu-35 to Ile-44,<br>Tyr-57 to His-65,<br>Ala-67 to Asn-72. |  |  |  | H0179: 1, H0271: 1, H0264:<br>1 and S0052: 1.                                       |  |
| HNFGC46 | 967538 | 3842 |  | 37 - 189  | 13594 |  |   |  |  |  | H0271: 2  |  |
| HNFGC53 | 860900 | 3843 |  | 2 - 241   | 13595 |  | Gly-40 to Glu-45.   |  |  |  | H0271: 2 and L0749: 1.  |  |
| HNFGC57 | 782183 | 3844 |  | 249 - 434 | 13596 |  | Asn-20 to Asp-26,<br>Asn-34 to Ser-41.                      |  |  |  | H0271: 2, H0265: 1 and<br>H0556: 1.   |  |
| HNFGC64 | 851981 | 3845 |  | 96 - 350  | 13597 |  |   |  |  |  | H0486: 1 and H0271: 1.  |  |
| HNFGC16 | 781720 | 3846 |  | 1 - 129   | 13598 |  | Glu-8 to Gly-17.  |  |  |  | H0179: 1 and H0271: 1.  |  |
| HNFGC36 | 684992 | 3847 |  | 3 - 140   | 13599 |  |   |  |  |  | H0271: 2 and L0581: 1.  |  |
| HNFGF83 | 526843 | 3848 |  | 3 - 140   | 13600 |  |   |  |  |  | H0271: 2, H0581: 1 and<br>H0543: 1.   |  |
| HNFGH24 | 524419 | 3849 |  | 178 - 324 | 13601 |  |   |  |  |  | H0271: 1 and H0187: 1.  |  |
| HNFGH71 | 954601 | 3850 |  | 230 - 379 | 13602 |  |   |  |  |  | H0179: 1 and H0271: 1.  |  |
| HNFGI01 | 921431 | 3851 |  | 2 - 481   | 13603 |  | Gln-6 to Leu-23.  |  |  |  | H0271: 2, L0761: 1, L0752:<br>1, L0755: 1 and L0596: 1.                             |  |
| HNFGI49 | 909707 | 3852 |  | 3 - 299   | 13604 |  | Arg-29 to Arg-34.   |  |  |  | H0271: 2  |  |

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| HNFGI84 | 783204 | 3853 | 2 - 130   | 13605 |   |  | H0271: 2   |          |   |
| HNFGI93 | 526534 | 3854 | 2 - 199   | 13606 | Glu-3 to Cys-21.  |  | H0271: 2   |          |   |
| HNFGK28 | 574599 | 3855 | 158 - 334 | 13607 | Glu-1 to Asn-10,<br>Asn-29 to Lys-34,<br>Asn-43 to Gly-48.  |  | H0271: 2   |          |   |
| HNFGK29 | 574593 | 3856 | 41 - 235  | 13608 |   |  | H0271: 2   |          |   |
| HNFGK39 | 574592 | 3857 | 1 - 237   | 13609 | Ser-1 to Phe-6,<br>Pro-22 to Arg-27,<br>Glu-31 to Glu-36,<br>Ser-42 to Arg-48.                      |  | H0271: 2   |          |   |
| HNFGI31 | 420241 | 3858 | 23 - 445  | 13610 |   |  | H0402: 1 and H0271: 1.   |          |   |
| HNFGI94 | 709264 | 3859 | 1 - 150   | 13611 | His-6 to Arg-12.  |  | H0271: 2   |          |   |
| HNFGM40 | 524398 | 3860 | 127 - 357 | 13612 | Pro-5 to Cys-11,<br>Ser-25 to Ala-31,<br>Pro-39 to Lys-44.  |  | H0271: 2   |          |   |
| HNFGM61 | 750800 | 3861 | 3 - 170   | 13613 | Ala-2 to Trp-7,<br>Thr-10 to Leu-26.  |  | H0271: 2   | 1q21-q25 | 104770, 107300,<br>107670, 110700,<br>131210, 135940,<br>136132, 145001,<br>146790, 150292,<br>152445, 152445,<br>159001, 173610,<br>174000, 179755,<br>182860, 182860,<br>182860, 191315,<br>208250, 230800,<br>230800, 233710,<br>266200, 600897,<br>600995, 601105,<br>601412, 601518,<br>601652, 602491 |
| HNFGM76 | 908665 | 3862 | 1 - 507   | 13614 | Ala-2 to Pro-8,<br>Glu-13 to Pro-20,<br>Gln-30 to His-51,<br>Val-58 to His-64,<br>Thr-71 to Arg-76. |  | AR089: 8, AR061: 6<br>L0761: 3, H0457: 2, L0769:<br>2, L0800: 2, L0794: 2,<br>H0580: 1, H0271: 1, L0796:<br>1, L0803: 1, L0789: 1, |          |   |

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|         |        |      |           |       |  | Ser-81 to Glu-94,<br>Thr-101 to Phe-108,<br>Arg-119 to His-126,<br>Gln-139 to Gly-148,<br>Ser-151 to Ser-159. | L0792: 1, L0777: 1 and<br>L0731: 1.           |       |  |
| HNFGN36 | 575567 | 3863 | 67 - 327  | 13615 |  | Thr-12 to His-29.   | H0271: 3, L0766: 1, S0052:<br>1 and L0591: 1. |       |  |
| HNFGN60 | 574588 | 3864 | 56 - 334  | 13616 |  |   | H0271: 2                                      |       |  |
| HNFGP07 | 953915 | 3865 | 302 - 517 | 13617 |  | Thr-42 to Pro-49.   | H0271: 1 and H0542: 1.                        |       |  |
| HNFGP31 | 574643 | 3866 | 42 - 125  | 13618 |  |   | H0271: 1 and H0264: 1.                        |       |  |
| HNFGP64 | 932413 | 3867 | 84 - 230  | 13619 |  |   | L0766: 3, H0271: 2, H0306:<br>1 and H0402: 1. |       |  |
| HNFGQ23 | 750597 | 3868 | 213 - 383 | 13620 |  | Thr-22 to Phe-28.   | H0580: 1 and H0271: 1.                        |       |  |
| HNFGQ58 | 574583 | 3869 | 180 - 314 | 13621 |  | Leu-1 to Ile-8.   | H0271: 2                                      |       |  |
| HNFGU56 | 574587 | 3870 | 3 - 305   | 13622 |  | Asn-3 to Ser-9,<br>Ala-21 to Trp-29,<br>Ser-51 to Trp-56,<br>Arg-63 to Arg-68,<br>Ile-89 to Pro-94.           | H0271: 2                                      |       |  |
| HNFGW96 | 915309 | 3871 | 430 - 693 | 13623 |  | Gln-10 to Tyr-17,<br>Arg-19 to Gln-30,<br>Lys-48 to Ala-54.   | H0416: 2, L0439: 2, H0271:<br>1 and L0776: 1. |       |  |
| HNFGX55 | 795918 | 3872 | 344 - 721 | 13624 |  |   | H0271: 4, H0179: 1 and<br>L0748: 1.           | 9q22  | 229600, 264300,<br>600542, 602014,<br>602088 |
| HNFGZ03 | 924695 | 3873 | 317 - 493 | 13625 |  |   | H0271: 1 and S0052: 1.                        | 19q13 | 109560, 205900,<br>600652, 600757            |
| HNFHA11 | 967520 | 3874 | 1 - 360   | 13626 |  |   | AR089: 11, AR061: 8<br>H0271: 2               |       |  |
| HNFHD40 | 970875 | 3875 | 327 - 482 | 13627 |  |   | H0271: 2 and H0444: 1.                        |       |  |
| HNHFH18 | 666827 | 3876 | 313 - 191 | 13628 |  | Leu-1 to Ser-8.   | H0271: 2                                      |       |  |
| HNHFH32 | 699518 | 3877 | 3 - 323   | 13629 |  | Ser-6 to Leu-12.  | H0271: 2                                      |       |  |
| HNHFH33 | 574146 | 3878 | 153 - 314 | 13630 |  |   | H0271: 2                                      |       |  |
| HNHFH53 | 574148 | 3879 | 170 - 322 | 13631 |  | Arg-1 to Ser-7,<br>Glu-9 to Asn-16.   | H0271: 2                                      |       |  |
| HNFHG35 | 574684 | 3880 | 23 - 205  | 13632 |  |   | H0271: 2                                      |       |  |

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| HNFFHH12 | 968808 | 3881 | 84 - 182  | 13633 | Arg-2 to Asn-14.  | H0271: 2   |               |  |
| HNFFHH31 | 574697 | 3882 | 34 - 213  | 13634 |   | H0271: 1 and H0090: 1.   |               |  |
| HNFFHH33 | 574703 | 3883 | 180 - 362 | 13635 |   | H0271: 1 and H0090: 1.   |               |  |
| HNFFHH83 | 523646 | 3884 | 38 - 181  | 13636 |   | H0271: 2   |               |  |
| HNFFHH88 | 521932 | 3885 | 36 - 128  | 13637 |   | H0179: 1 and H0271: 1.   | 19q13.3-q13.4 | 113900, 126340,<br>126391, 130410,<br>134790, 138570,<br>160900, 173850,<br>191044, 258501,<br>600040, 600138,<br>602225, 602225 |
| HNFFHI17 | 523569 | 3886 | 33 - 203  | 13638 | Asn-4 to Gly-17.  | H0271: 3   |               |  |
| HNFFHI10 | 964802 | 3887 | 149 - 352 | 13639 | His-10 to Ser-24,<br>Gln-32 to Phe-55.                    | H0271: 3   | 19q13         | 109560, 205900,<br>600652, 600757  |
| HNFFHK07 | 953538 | 3888 | 11 - 208  | 13640 | Ser-8 to Ile-16.  | H0179: 1 and H0271: 1.   |               |  |
| HNFFHK46 | 860844 | 3889 | 3 - 446   | 13641 | His-1 to Asn-8,<br>Ser-15 to Gln-22,<br>Leu-27 to Arg-32. | H0271: 3   |               |  |
| HNFFHK77 | 576186 | 3890 | 165 - 422 | 13642 | Pro-38 to Lys-43.   | AR061: 1, AR089: 0<br>H0271: 2   |               |  |
| HNFFHK85 | 577324 | 3891 | 114 - 311 | 13643 | Lys-1 to Gly-23.  | S0428: 2, H0271: 1, L0770:<br>1, L0666: 1 and S0053: 1.  |               |  |
| HNFFHM09 | 657247 | 3892 | 3 - 131   | 13644 | Pro-6 to Gly-11.  | H0271: 1, S0002: 1 and<br>S0052: 1.  |               |  |
| HNFFHM47 | 916624 | 3893 | 40 - 360  | 13645 |   | L0771: 2, H0556: 1, H0657:<br>1, S0116: 1, H0402: 1,<br>H0580: 1, S0278: 1, H0179:<br>1, H0271: 1, S0002: 1,<br>L0752: 1 and S0196: 1. |               |  |
| HNFFHM58 | 674349 | 3894 | 3 - 134   | 13646 |   | H0556: 1 and H0271: 1.   |               |  |
| HNFFHM60 | 662643 | 3895 | 7 - 87    | 13647 |   | H0585: 1 and H0271: 1.   |               |  |
| HNFFHN03 | 860887 | 3896 | 165 - 272 | 13648 |   | H0271: 2   |               |  |
| HNFFHQ01 | 938114 | 3897 | 173 - 334 | 13649 | Gln-1 to Trp-8.   | H0271: 2 and S0428: 1.   |               |  |
| HNFFHQ23 | 921950 | 3898 | 41 - 322  | 13650 | Arg-60 to Lys-65.   | H0271: 1, H0416: 1 and<br>H0521: 1.  |               |  |
| HNFFHQ32 | 765827 | 3899 | 111 - 323 | 13651 | Pro-34 to Ser-44.   | H0271: 2 and H0090: 1.   |               |  |

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| HNFBQ67 | 576147 | 3900 | 1 - 240   | 13652 | Thr-59 to Arg-73.   | H0271: 2   |  |
| HNFBH70 | 586494 | 3901 | 63 - 344  | 13653 | Leu-10 to Glu-19.   | H0271: 3 and H0179: 1.   |  |
| HNFBH84 | 725666 | 3902 | 171 - 383 | 13654 | Asp-13 to Pro-27.   | H0271: 1 and H0416: 1.   |  |
| HNFBH85 | 576118 | 3903 | 1 - 195   | 13655 | His-6 to Val-11.  | H0271: 1 and H0416: 1.   |  |
| HNFBH20 | 512927 | 3904 | 310 - 471 | 13656 |   | H0271: 2   |  |
| HNFBH27 | 683506 | 3905 | 171 - 1   | 13657 | Lys-28 to Glu-36,<br>Lys-52 to Lys-57.  | L0766: 2, H0341: 1 and<br>H0271: 1.                                  |  |
| HNFBH85 | 506309 | 3906 | 164 - 376 | 13658 |   | H0271: 2   |  |
| HNFBH81 | 766220 | 3907 | 59 - 400  | 13659 | Ser-2 to Gly-11.  | H0271: 2   |  |
| HNFBH14 | 939763 | 3908 | 2 - 448   | 13660 | Leu-9 to Met-15,<br>Thr-25 to Cys-37,<br>Glu-40 to Gly-45,<br>Leu-109 to His-115. | AR061: 32, AR089: 21<br>H0271: 2                                     |  |
| HNFBH40 | 577110 | 3909 | 3 - 314   | 13661 | Pro-25 to Gln-33.   | H0271: 1, H0063: 1 and<br>L0750: 1.                                  |  |
| HNFBH70 | 757261 | 3910 | 115 - 315 | 13662 | Met-3 to Lys-15,<br>Gly-39 to His-45.   | H0486: 1 and H0271: 1.   |  |
| HNFBH81 | 577329 | 3911 | 2 - 196   | 13663 | Gly-1 to Asn-6,<br>Met-17 to Phe-23,<br>Thr-36 to Thr-52.                         | H0255: 1, H0271: 1, S0052:<br>1 and S0053: 1.                        |  |
| HNFBH24 | 934305 | 3912 | 335 - 589 | 13664 | Pro-5 to Asn-14,<br>Glu-20 to Thr-30.   | H0271: 1, L0773: 1, L0363:<br>1, S0428: 1, L0748: 1 and<br>L0749: 1. |  |
| HNFBH44 | 716852 | 3913 | 84 - 293  | 13665 | Gly-2 to Gly-8.   | H0457: 3, H0250: 1, H0179:<br>1, H0271: 1 and S0053: 1.              |  |
| HNFBH29 | 860879 | 3914 | 2 - 583   | 13666 | Glu-16 to Trp-34.   | H0635: 1 and H0271: 1.   |  |
| HNFBH33 | 861010 | 3915 | 2 - 223   | 13667 | Thr-10 to Thr-15.   | H0457: 1, H0179: 1, H0271:<br>1 and H0416: 1.                        |  |
| HNFBH47 | 523438 | 3916 | 230 - 319 | 13668 |   | H0179: 2 and H0416: 1.   |  |
| HNFBH67 | 577326 | 3917 | 125 - 33  | 13669 | Phe-1 to Asn-12.  | H0416: 1 and S0052: 1.   |  |
| HNFBH22 | 577442 | 3918 | 86 - 352  | 13670 | Pro-1 to Gly-11,<br>Glu-19 to Ala-27,<br>Gln-49 to Arg-63.                        | H0271: 1 and H0416: 1.   |  |
| HNFBH43 | 707264 | 3919 | 226 - 363 | 13671 | Arg-18 to Ser-25.   | H0416: 1 and S0144: 1.   |  |
| HNFBH18 | 576032 | 3920 | 2 - 166   | 13672 | Cys-23 to Ala-29,<br>Asn-33 to Leu-38.  | H0416: 2   |  |

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| HNFIG07 | 918389 | 3921 | 2 - 478   | 13673 | Gly-50 to Glu-61,<br>Pro-63 to Gln-79,<br>Arg-98 to Ser-107,<br>Pro-126 to Arg-137.                  | H0581: 1 and H0416: 1.                        |  |  |
| HNFIH79 | 576143 | 3922 | 264 - 109 | 13674 |  | H0416: 1 and H0422: 1.                        |  |  |
| HNFIJ46 | 919275 | 3923 | 240 - 476 | 13675 |  | H0416: 1 and H0445: 1.                        |  |  |
| HNFIK03 | 921951 | 3924 | 3 - 194   | 13676 |  | H0416: 1 and S0052: 1.                        |  |  |
| HNFIK37 | 576151 | 3925 | 90 - 236  | 13677 |  | H0416: 2                                      |  |  |
| HNFIK44 | 506258 | 3926 | 94 - 330  | 13678 |  | H0416: 2                                      |  |  |
| HNFIK13 | 657201 | 3927 | 102 - 434 | 13679 | Arg-47 to Lys-60,<br>Arg-67 to Trp-73.   | H0416: 2                                      |  |  |
| HNFIK16 | 661500 | 3928 | 272 - 111 | 13680 | Pro-31 to Arg-36.  | H0416: 1 and H0488: 1.                        |  |  |
|         | 860869 | 9581 | 590 - 925 | 19333 | Gln-51 to Thr-78,<br>Lys-95 to Thr-100.  |   |  |  |
|         | 964396 | 9582 | 327 - 587 | 19334 |  |   |  |  |
| HNFIN33 | 702415 | 3929 | 160 - 333 | 13681 | Lys-1 to Cys-6,<br>Ser-14 to Ser-19.   | H0271: 1 and H0416: 1.                        |  |  |
| HNFIN60 | 740372 | 3930 | 183 - 443 | 13682 | Pro-18 to Gly-23,<br>Phe-33 to Ala-39,<br>Pro-64 to Trp-79.  | H0416: 2                                      |  |  |
| HNFIN67 | 574569 | 3931 | 3 - 326   | 13683 | Pro-19 to Pro-30,<br>Pro-46 to Ser-55.   | H0305: 2, H0271: 1 and<br>H0416: 1.           |  |  |
| HNFIN83 | 779925 | 3932 | 1 - 318   | 13684 | Pro-11 to Val-35,<br>Gln-44 to Leu-52,<br>Gln-92 to Phe-103.   | H0402: 1 and H0416: 1.                        |  |  |
| HNFI027 | 573095 | 3933 | 74 - 373  | 13685 | Lys-3 to Trp-10,<br>Lys-12 to Phe-17,<br>Ser-32 to Ser-39,<br>Cys-64 to Gln-71,<br>Ala-73 to Asp-78. | H0271: 1, H0416: 1, S0052:<br>1 and S0053: 1. |  |  |
| HNFI050 | 724374 | 3934 | 3 - 332   | 13686 | Glu-8 to Ser-16,<br>Ser-41 to Trp-46,<br>Gly-50 to Gly-55,<br>Leu-72 to Arg-80.                      | H0416: 1 and S0053: 1.                        |  |  |
| HNFI082 | 921037 | 3935 | 1 - 210   | 13687 | Ser-7 to Trp-22,<br>Asn-30 to Arg-39.  | H0271: 1 and H0416: 1.                        |  |  |



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| HNFI50  | 965283 | 3936 | 369 - 1067 | 13688 | Pro-41 to Glu-46.<br>Arg-1 to Trp-17,<br>Ser-50 to Ser-56,<br>Ser-74 to Ala-93,<br>Gly-105 to Ser-116,<br>Thr-177 to Leu-183.                   | H0656: 1 and H0416: 1.              |  |  |
| HNFI71  | 760366 | 3937 | 1 - 423    | 13689 | Cys-6 to Thr-15,<br>Asn-29 to Arg-34,<br>Ala-49 to Ser-54,<br>Pro-81 to Gly-86.   | H0069: 1 and H0416: 1.              |  |  |
| HNFIQ17 | 768043 | 3938 | 183 - 440  | 13690 | Pro-6 to Arg-17,<br>Pro-62 to Gln-74.   | H0271: 1, H0416: 1 and<br>H0488: 1. |  |  |
| HNFIQ74 | 765566 | 3939 | 2 - 136    | 13691 | Glu-1 to Phe-13,<br>Ser-17 to Trp-39.   | H0271: 1 and H0416: 1.              |  |  |
| HNFI02  | 928109 | 3940 | 3 - 311    | 13692 | Gln-1 to Ser-11,<br>Cys-20 to Pro-26,<br>Ala-30 to Arg-35,<br>Pro-49 to Gly-57,<br>Ser-72 to Cys-78,<br>Pro-80 to Asp-86,<br>Arg-96 to His-102. | H0416: 2                            |  |  |
| HNFI32  | 848254 | 3941 | 161 - 472  | 13693 | Arg-55 to Gln-61.   | H0370: 1, H0416: 1 and<br>H0436: 1. |  |  |
| HNFI86  | 781175 | 3942 | 3 - 194    | 13694 |   | H0271: 1 and H0416: 1.              |  |  |
| HNFI51  | 725648 | 3943 | 146 - 376  | 13695 |   | H0416: 2                            |  |  |
| HNFI31  | 697961 | 3944 | 1 - 90     | 13696 |   | H0416: 1 and H0436: 1.              |  |  |
| HNFI07  | 953268 | 3945 | 100 - 321  | 13697 | Pro-12 to Ala-27.   | H0556: 1 and H0416: 1.              |  |  |
| HNFI14  | 967558 | 3946 | 2 - 166    | 13698 | Ala-11 to Gly-21,<br>Pro-41 to Gly-51.  | H0271: 1 and H0416: 1.              |  |  |
| HNFI24  | 677178 | 3947 | 192 - 392  | 13699 |   | H0271: 1 and H0416: 1.              |  |  |
| HNFI56  | 733363 | 3948 | 267 - 416  | 13700 | Phe-19 to Lys-27.   | H0416: 1 and S0002: 1.              |  |  |
| HNFI38  | 709265 | 3949 | 171 - 335  | 13701 |   | H0416: 1, H0063: 1 and<br>L0803: 1. |  |  |
| HNFI73  | 764409 | 3950 | 3 - 242    | 13702 | Asp-32 to Arg-48,<br>Tyr-69 to Asn-74.  | H0271: 1 and H0416: 1.              |  |  |
| HNFIW62 | 740598 | 3951 | 172 - 354  | 13703 | Asn-46 to Ala-61.   | H0271: 1 and H0416: 1.              |  |  |

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| HNFIZ47 | 720315 | 3952 | 3 - 188   | 13704 |   |  | H0271: 1 and H0416: 1.   |  |  |
| HNFJA29 | 941525 | 3953 | 24 - 494  | 13705 | Arg-9 to Leu-15,<br>Cys-36 to Thr-43,<br>Cys-102 to Trp-110,<br>Lys-123 to Glu-128,<br>Met-151 to Gln-157.  |  | H0179: 2 and H0271: 2.   |  |  |
| HNFJA60 | 740362 | 3954 | 3 - 125   | 13706 | Asn-1 to Asp-7.   |  | H0271: 3   |  |  |
| HNFJA78 | 723390 | 3955 | 1 - 201   | 13707 |   |  | H0271: 1 and H0264: 1.   |  |  |
| HNFJB80 | 752489 | 3956 | 219 - 392 | 13708 | Leu-39 to Gly-44.   |  | H0556: 1, H0271: 1 and<br>H0543: 1.  |  |  |
| HNFJE30 | 574145 | 3957 | 1 - 243   | 13709 |   |  | H0271: 2   |  |  |
| HNFJG33 | 702411 | 3958 | 5 - 181   | 13710 | Asn-5 to Asp-12,<br>Leu-15 to Trp-22.   |  | H0271: 2   |  |  |
| HNFJG44 | 860847 | 3959 | 3 - 590   | 13711 | Asp-1 to Ser-18,<br>Ser-24 to Tyr-31,<br>Glu-36 to Asp-41,<br>Ile-49 to Leu-57,<br>Glu-98 to Glu-103,<br>Gln-118 to His-135,<br>Gly-140 to Ala-146. |  | H0271: 1, H0063: 1 and<br>L0439: 1.  |  |  |
| HNFJH59 | 738593 | 3960 | 263 - 472 | 13712 | Arg-53 to Arg-60.   |  | H0271: 1 and H0522: 1.   |  |  |
| HNFJH70 | 956187 | 3961 | 676 - 900 | 13713 | Arg-2 to Thr-7.   |  | S0053: 2, S0114: 1, S0116:<br>1, H0580: 1, H0179: 1,<br>H0271: 1, H0090: 1, H0264:<br>1, L0805: 1, L0527: 1 and<br>L0367: 1. |  |  |
| HNGAC50 | 724666 | 3962 | 19 - 123  | 13714 |   |  | H0402: 1 and S0052: 1.   |  |  |
| HNGAD53 | 527977 | 3963 | 1 - 225   | 13715 |   |  | S0052: 2   |  |  |
| HNGAF45 | 526940 | 3964 | 5 - 295   | 13716 | Gly-1 to Ala-11.  |  | S0116: 2, L0667: 1, L0803:<br>1, S0052: 1, L0748: 1 and<br>L0749: 1.   |  |  |
| HNGAH10 | 968271 | 3965 | 3 - 167   | 13717 | Lys-11 to Thr-24.   |  | S0052: 1 and S0216: 1.   |  |  |
| HNGAH27 | 573087 | 3966 | 152 - 271 | 13718 | Gln-30 to Asp-35.   |  | S0052: 2   |  |  |
| HNGAI23 | 676296 | 3967 | 197 - 367 | 13719 | Pro-11 to Arg-21,<br>His-43 to Lys-53.  |  | S0052: 2   |  |  |
| HNGAI35 | 558467 | 3968 | 2 - 169   | 13720 |   |  | S0052: 2   |  |  |

|         |        |      |           |       |  |                        |  |
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| HNGAJ10 | 860751 | 3969 | 54 - 230  | 13721 | Arg-14 to Lys-23,<br>Phe-37 to Thr-45.   | S0052: 2               |  |
| HNGAJ82 | 577407 | 3970 | 2 - 214   | 13722 |  | S0052: 2               |  |
| HNGAK12 | 660682 | 3971 | 3 - 248   | 13723 | Gln-1 to Lys-8,<br>Pro-33 to Ser-58.   | H0090: 1 and S0052: 1. |  |
| HNGAK70 | 860770 | 3972 | 3 - 344   | 13724 | Arg-4 to Ile-11.   | S0052: 2               |  |
| HNGAL51 | 531719 | 3973 | 102 - 233 | 13725 | Ser-2 to Phe-11.   | S0052: 2               |  |
| HNGAL84 | 573099 | 3974 | 180 - 1   | 13726 | Gly-1 to Thr-11,<br>Gly-55 to Asn-60.  | S0052: 2               |  |
| HNGAL88 | 574666 | 3975 | 80 - 256  | 13727 | Thr-22 to Ile-29.  | S0052: 2               |  |
| HNGAL92 | 953889 | 3976 | 3 - 212   | 13728 | Ser-26 to Phe-32,<br>Val-34 to Arg-42.   | S0052: 2               |  |
| HNGAN28 | 685436 | 3977 | 2 - 115   | 13729 |  | S0052: 2               |  |
| HNGAN78 | 577412 | 3978 | 127 - 444 | 13730 | Pro-80 to Ser-88.  | S0278: 1 and S0052: 1. |  |
| HNGAO40 | 660305 | 3979 | 69 - 170  | 13731 | Ala-25 to Gly-33.  | S0052: 1 and S0053: 1. |  |
| HNGAP18 | 666852 | 3980 | 127 - 333 | 13732 | Asp-7 to Val-15,<br>Arg-18 to Glu-26.  | S0052: 2               |  |
| HNGAP59 | 916323 | 3981 | 2 - 166   | 13733 | Pro-3 to Gln-8.  | S0144: 1 and S0052: 1. |  |
| HNGAQ54 | 574647 | 3982 | 3 - 164   | 13734 | Arg-46 to Arg-54.  | S0052: 2               |  |
| HNGAR83 | 574470 | 3983 | 3 - 290   | 13735 |  | S0052: 2               |  |
| HNGAS51 | 773208 | 3984 | 21 - 218  | 13736 |  | S0052: 1 and S0216: 1. |  |
| HNGAU59 | 860839 | 3985 | 3 - 89    | 13737 |  | S0052: 2               |  |
| HNGAU65 | 925692 | 3986 | 1 - 249   | 13738 | Cys-5 to Ser-11,<br>Pro-37 to Gly-42.  | S0052: 1 and S0053: 1. |  |
| HNGAV04 | 506589 | 3987 | 268 - 444 | 13739 |  | S0052: 2               |  |
| HNGAV25 | 574671 | 3988 | 103 - 285 | 13740 | Thr-29 to His-34.  | S0052: 2               |  |
| HNGAV53 | 573092 | 3989 | 15 - 257  | 13741 | Asn-1 to Cys-6,<br>Glu-16 to Ser-25,<br>Leu-41 to Lys-49,<br>Val-70 to Gln-79. | S0052: 2               |  |
| HNGAV79 | 574661 | 3990 | 117 - 383 | 13742 |  | S0052: 3               |  |
| HNGAV84 | 574651 | 3991 | 3 - 107   | 13743 |  | S0052: 2               |  |
| HNGAV88 | 860753 | 3992 | 217 - 453 | 13744 | Gly-1 to Glu-7.  | S0052: 2               |  |
| HNGAW25 | 574645 | 3993 | 84 - 284  | 13745 | Ser-1 to Asn-6,<br>Arg-11 to Thr-23.   | S0052: 2               |  |

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|---------|--------|------|------------|-------|--|---|---|--|--|
| HNGAW40 | 711454 | 3994 | 2 - 229    | 13746 |  |   | S0052: 2                                      |  |  |
| HNGAX82 | 507313 | 3995 | 22 - 258   | 13747 |  |   | H0271: 1 and S0052: 1.                        |  |  |
| HNGAZ49 | 715380 | 3996 | 1 - 216    | 13748 |  | Gly-41 to Arg-46,<br>Pro-59 to Pro-65.                    | H0402: 1, L0365: 1 and<br>S0052: 1.           |  |  |
| HNGBB06 | 936080 | 3997 | 2 - 271    | 13749 |  | Thr-24 to His-35.   | S0052: 2, L0742: 1 and<br>L0748: 1.           |  |  |
| HNGBC50 | 868082 | 3998 | 907 - 1395 | 13750 |  | Gly-26 to Thr-36,<br>His-88 to Lys-103.                   | AR050: 7, AR054: 3,<br>AR051: 1<br>S0052: 4   |  |  |
| HNGBE26 | 684761 | 3999 | 227 - 373  | 13751 |  | Pro-6 to Lys-13.  | S0052: 2                                      |  |  |
| HNGBF41 | 571331 | 4000 | 99 - 371   | 13752 |  | Ser-15 to Lys-20,<br>Ala-28 to Lys-33.                    | S0052: 2 and S0216: 1.                        |  |  |
| HNGBF80 | 574475 | 4001 | 1 - 132    | 13753 |  |   | S0052: 2                                      |  |  |
| HNGBG20 | 860739 | 4002 | 57 - 218   | 13754 |  | Glu-2 to Asn-17,<br>Gln-31 to Ala-36.                     | S0052: 2                                      |  |  |
| HNGBG50 | 577364 | 4003 | 1 - 219    | 13755 |  |   | S0052: 1 and S0053: 1.                        |  |  |
| HNGBH04 | 574469 | 4004 | 138 - 28   | 13756 |  |   | S0052: 2                                      |  |  |
| HNGBH77 | 577361 | 4005 | 115 - 243  | 13757 |  |   | S0052: 2                                      |  |  |
| HNGBI10 | 968246 | 4006 | 1 - 165    | 13758 |  |   | S0052: 2                                      |  |  |
| HNGBI35 | 574403 | 4007 | 10 - 114   | 13759 |  |   | S0052: 2                                      |  |  |
| HNGBI70 | 781978 | 4008 | 2 - 442    | 13760 |  |   | S0052: 2                                      |  |  |
| HNGBI88 | 574409 | 4009 | 86 - 343   | 13761 |  |   | S0052: 2                                      |  |  |
| HNGBI95 | 785983 | 4010 | 2 - 127    | 13762 |  |   | S0052: 2                                      |  |  |
| HNGBI40 | 948741 | 4011 | 373 - 576  | 13763 |  | Glu-1 to Gln-7,<br>Leu-13 to Gln-20,<br>Lys-32 to Gly-39. | S0052: 2 and S0428: 1.                        |  |  |
| HNGBI84 | 573072 | 4012 | 1 - 180    | 13764 |  | Lys-1 to Lys-11.  | S0052: 2                                      |  |  |
| HNGBI96 | 574474 | 4013 | 3 - 122    | 13765 |  |   | S0052: 2                                      |  |  |
| HNGBN36 | 526808 | 4014 | 216 - 437  | 13766 |  | Arg-8 to Leu-30,<br>Ala-32 to Leu-37.                     | S0052: 3                                      |  |  |
| HNGBO34 | 932408 | 4015 | 227 - 373  | 13767 |  |   | S0052: 2                                      |  |  |
| HNGBP21 | 671258 | 4016 | 2 - 208    | 13768 |  |   | H0250: 1, S0052: 1, L0754:<br>1 and L0581: 1. |  |  |
| HNGBP28 | 421816 | 4017 | 1 - 213    | 13769 |  |   | S0052: 2                                      |  |  |
| HNGBP35 | 526806 | 4018 | 1 - 75     | 13770 |  | Gly-1 to Asn-7,   | S0052: 3 and S0426: 1.                        |  |  |

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| HNGBQ20 | 859846 | 4019 | 227 - 526 | 13771 | Ser-15 to Phe-20.   |   |  |
| HNGBQ75 | 573047 | 4020 | 83 - 253  | 13772 | Val-1 to Tyr-12.  | S0052: 1 and S0216: 1.                                  |  |
| HNGBS88 | 575561 | 4021 | 86 - 247  | 13773 | Ser-44 to Arg-52.   | S0052: 2  |  |
| HNGBT44 | 574400 | 4022 | 153 - 281 | 13774 |   | S0052: 2  |  |
| HNGBT58 | 577325 | 4023 | 200 - 337 | 13775 | Ala-1 to Arg-17.  | S0052: 2  |  |
| HNGBT72 | 579064 | 4024 | 169 - 285 | 13776 | His-12 to Thr-20,<br>Ile-34 to Tyr-39.                      | S0052: 2  |  |
| HNGBU15 | 574467 | 4025 | 71 - 151  | 13777 |   | S0052: 2  |  |
| HNGBV67 | 574468 | 4026 | 2 - 148   | 13778 |   | S0052: 2  |  |
| HNGBW63 | 574466 | 4027 | 3 - 131   | 13779 | Lys-9 to Ser-18.  | S0052: 2  |  |
| HNGBX64 | 574472 | 4028 | 1 - 108   | 13780 |   | S0052: 2  |  |
| HNGBZ16 | 667293 | 4029 | 220 - 318 | 13781 | Gln-9 to Lys-14.  | S0052: 2  |  |
| HNGBZ17 | 575717 | 4030 | 292 - 450 | 13782 |   | S0052: 2 and S0428: 1.                                  |  |
| HNGBZ20 | 812895 | 4031 | 21 - 176  | 13783 | Gln-24 to Gln-32,<br>Ser-41 to Trp-50.                      | S0052: 2  |  |
| HNGBZ55 | 573069 | 4032 | 143 - 256 | 13784 |   | S0052: 2 and L0800: 1.                                  |  |
| HNGBZ92 | 574464 | 4033 | 2 - 151   | 13785 |   | S0052: 2  |  |
| HNGCA47 | 574465 | 4034 | 2 - 205   | 13786 |   | S0052: 2 and S0216: 1.                                  |  |
| HNGCA61 | 574461 | 4035 | 4 - 219   | 13787 | Arg-4 to Arg-10,<br>Arg-27 to Pro-44.                       | S0052: 2  |  |
| HNGCB44 | 674670 | 4036 | 158 - 289 | 13788 | Gln-18 to Asp-24.   | S0052: 1 and S0053: 1.                                  |  |
| HNGCC47 | 926947 | 4037 | 1 - 144   | 13789 | Trp-11 to Leu-17,<br>Pro-20 to Pro-28,<br>Ala-32 to Gly-48. | S0052: 1 and S0428: 1.                                  |  |
| HNGCD08 | 959963 | 4038 | 22 - 177  | 13790 | Cys-16 to Arg-28,<br>Cys-30 to Asn-40.                      | S0052: 1 and S0216: 1.                                  |  |
| HNGCE85 | 970738 | 4039 | 2 - 154   | 13791 |   | S0052: 2  |  |
| HNGCF09 | 527972 | 4040 | 2 - 100   | 13792 |   | S0052: 2  |  |
| HNGCF28 | 574397 | 4041 | 3 - 113   | 13793 | His-1 to Asn-7.   | S0052: 2  |  |
| HNGCG83 | 868075 | 4042 | 236 - 403 | 13794 |   | S0052: 2  |  |
| HNGCH05 | 932404 | 4043 | 183 - 335 | 13795 | Leu-1 to Asn-6,<br>Ser-23 to Gln-28,<br>Ser-36 to Gln-44.   | H0063: 1, S0052: 1, L0748:<br>1, L0745: 1 and L0749: 1. |  |
| HNGCI02 | 920722 | 4044 | 14 - 214  | 13796 | Thr-37 to Pro-44.   | S0052: 1 and S0428: 1.                                  |  |

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| HNGCI11 | 967513 | 4045 | 2 - 223   | 13797 | Phe-20 to Leu-26.   | S0052: 1 and S0053: 1.              |  |
| HNGCI17 | 526807 | 4046 | 56 - 226  | 13798 | Leu-1 to Ser-7.   | S0052: 2                            |  |
| HNGCI53 | 825377 | 4047 | 61 - 270  | 13799 | Gly-18 to Ala-23,<br>Pro-31 to Leu-41,<br>Pro-57 to Glu-67. | S0052: 2                            |  |
| HNGCI69 | 574456 | 4048 | 3 - 278   | 13800 | Thr-68 to Thr-81.   | S0052: 2                            |  |
| HNGCK34 | 706561 | 4049 | 78 - 206  | 13801 | Pro-21 to Ser-31.   | S0052: 1 and S0053: 1.              |  |
| HNGCK82 | 796479 | 4050 | 38 - 142  | 13802 | Asn-1 to Thr-6.   | S0052: 2                            |  |
| HNGCK93 | 574458 | 4051 | 151 - 276 | 13803 |   | S0052: 2                            |  |
| HNGCL31 | 571332 | 4052 | 154 - 408 | 13804 | Ser-6 to Pro-12,<br>Ser-22 to Lys-30.                       | S0052: 2 and L0758: 1.              |  |
| HNGCL55 | 574453 | 4053 | 3 - 167   | 13805 | Phe-1 to Arg-11,<br>Asp-34 to Asn-42.                       | S0052: 2                            |  |
| HNGCM05 | 932409 | 4054 | 2 - 139   | 13806 | Glu-10 to Arg-15.   | S0052: 1 and S0053: 1.              |  |
| HNGCO37 | 708694 | 4055 | 101 - 409 | 13807 | Phe-16 to Ser-39.   | S0052: 2                            |  |
| HNGCO45 | 573055 | 4056 | 22 - 255  | 13808 | Tyr-2 to Ser-8.   | S0052: 2                            |  |
| HNGCO86 | 779203 | 4057 | 152 - 3   | 13809 |   | S0052: 1 and S0428: 1.              |  |
| HNGCQ37 | 708698 | 4058 | 1 - 258   | 13810 | Gly-26 to Pro-32.   | S0052: 2                            |  |
| HNGCU24 | 574339 | 4059 | 67 - 138  | 13811 |   | S0052: 2                            |  |
| HNGCU70 | 574340 | 4060 | 3 - 155   | 13812 | Val-1 to Glu-10,<br>Pro-38 to Trp-43.                       | S0052: 2                            |  |
| HNGCW38 | 574463 | 4061 | 115 - 321 | 13813 | Gln-19 to Pro-25.   | S0052: 2 and S0428: 1.              |  |
| HNGCW81 | 577253 | 4062 | 236 - 346 | 13814 | Lys-7 to Glu-16.  | L0766: 1, S0052: 1 and<br>H0445: 1. |  |
| HNGCW82 | 574344 | 4063 | 134 - 307 | 13815 | Lys-1 to Ser-14,<br>Lys-38 to Tyr-43.                       | S0052: 2                            |  |
| HNGCW83 | 574338 | 4064 | 3 - 113   | 13816 | Arg-1 to Gly-7,<br>Val-9 to Gly-17.                         | S0052: 2                            |  |
| HNGCX07 | 953900 | 4065 | 3 - 287   | 13817 | Lys-55 to Glu-63.   | S0052: 2                            |  |
| HNGCY37 | 952203 | 4066 | 81 - 428  | 13818 | Lys-19 to Gly-28,<br>Glu-37 to Gly-57,<br>Ser-81 to His-99. | S0052: 1 and S0428: 1.              |  |
| HNGCY41 | 806055 | 4067 | 36 - 143  | 13819 |   | S0052: 1 and S0428: 1.              |  |
| HNGCY43 | 574392 | 4068 | 1 - 258   | 13820 | Lys-17 to Lys-23,<br>Glu-40 to Trp-46.                      | S0052: 2                            |  |

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| HNGCY59 | 959967 | 4069 | 112 - 297 | 13821 | Lys-8 to Gly-18,<br>Ser-31 to Asp-50,<br>Pro-55 to Gly-60. | L0766: 3, S0052: 2, L0598:<br>1, L0659: 1 and L0759: 1. |  |
| HNGCZ13 | 660916 | 4070 | 34 - 240  | 13822 | His-4 to Glu-10,<br>Lys-31 to Ala-37.                      | S0052: 2  |  |
| HNGDA09 | 574454 | 4071 | 1 - 156   | 13823 | Ser-1 to Arg-20,<br>Pro-32 to Phe-38.                      | S0052: 2  |  |
| HNGDA56 | 574452 | 4072 | 18 - 260  | 13824 | Pro-1 to Thr-10,<br>Pro-17 to Pro-23.                      | S0052: 2  |  |
| HNGDB25 | 784836 | 4073 | 96 - 296  | 13825 | His-48 to Thr-53,<br>Pro-55 to Gln-61.                     | S0052: 1 and S0428: 1.                                  |  |
| HNGDB65 | 526852 | 4074 | 81 - 260  | 13826 |  | S0052: 2  |  |
| HNGDD30 | 573021 | 4075 | 94 - 273  | 13827 | Leu-16 to Asn-22.  | S0052: 2  |  |
| HNGDD39 | 709270 | 4076 | 9 - 164   | 13828 |  | S0052: 2  |  |
| HNGDD73 | 764596 | 4077 | 264 - 464 | 13829 |  | S0052: 2  |  |
| HNGDE07 | 953858 | 4078 | 2 - 133   | 13830 | Arg-5 to Gly-10,<br>Val-17 to Trp-29,<br>Arg-31 to Val-36. | S0052: 2  |  |
| HNGDE31 | 794124 | 4079 | 125 - 244 | 13831 |  | H0580: 1 and S0052: 1.                                  |  |
| HNGDF48 | 723368 | 4080 | 3 - 161   | 13832 | Gly-16 to Pro-22.  | S0052: 2  |  |
| HNGDF72 | 766217 | 4081 | 135 - 269 | 13833 | Arg-35 to Pro-40.  | S0052: 2  |  |
| HNGDG86 | 577237 | 4082 | 59 - 259  | 13834 | Thr-1 to Phe-8,<br>Cys-12 to Gln-17.                       | S0052: 2  |  |
| HNGDH09 | 573022 | 4083 | 118 - 264 | 13835 |  | S0052: 2  |  |
| HNGDH37 | 917254 | 4084 | 70 - 183  | 13836 |  | S0052: 2  |  |
| HNGDH52 | 914629 | 4085 | 3 - 242   | 13837 | Gln-26 to Trp-41.  | H0556: 1, H0650: 1, H0250:<br>1 and S0052: 1.           |  |
| HNGDH96 | 573060 | 4086 | 77 - 265  | 13838 | Cys-48 to Asn-58.  | S0052: 2 and S0428: 1.                                  |  |
| HNGDK17 | 860684 | 4087 | 3 - 365   | 13839 | His-1 to Gly-16.   | S0052: 2  |  |
| HNGDK41 | 574559 | 4088 | 223 - 387 | 13840 | Ser-11 to Asn-21,<br>Pro-23 to Met-32.                     | S0052: 2  |  |
| HNGDL32 | 935842 | 4089 | 61 - 369  | 13841 | Ser-1 to Leu-7,<br>Ser-26 to Tyr-35.                       | S0052: 2  |  |
| HNGDL72 | 574451 | 4090 | 1 - 66    | 13842 |  | S0052: 2  |  |
| HNGDL93 | 927582 | 4091 | 46 - 108  | 13843 |  | S0052: 2  |  |

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| HNGDO17 | 973285 | 4092 | 240 - 629 | 13844 | Gly-23 to Pro-31,<br>His-40 to Met-55.   | H0416: 1 and S0052: 1. |  |
| HNGDP10 | 968221 | 4093 | 2 - 178   | 13845 |  | S0052: 2               |  |
| HNGDP13 | 574484 | 4094 | 2 - 121   | 13846 | Ala-1 to Tyr-7,<br>Pro-17 to Asn-25.   | S0052: 2               |  |
| HNGDP27 | 574482 | 4095 | 278 - 445 | 13847 |  | S0052: 2 and L0666: 1. |  |
| HNGDP29 | 574488 | 4096 | 150 - 413 | 13848 | Pro-16 to Gln-22.  | S0052: 2               |  |
| HNGDP30 | 574480 | 4097 | 195 - 365 | 13849 | Met-35 to His-42.  | S0052: 2               |  |
| HNGDP71 | 574481 | 4098 | 157 - 360 | 13850 |  | S0052: 2               |  |
| HNGDP74 | 860669 | 4099 | 51 - 500  | 13851 |  | S0052: 2               |  |
| HNGDP89 | 574478 | 4100 | 133 - 261 | 13852 |  | S0052: 2               |  |
| HNGDP95 | 574477 | 4101 | 2 - 190   | 13853 | Gly-2 to Phe-10,<br>Pro-29 to Ser-34.  | S0052: 2               |  |
| HNGDR19 | 953672 | 4102 | 65 - 388  | 13854 | Glu-11 to Ala-16,<br>Pro-34 to Ser-41,<br>Leu-74 to Thr-80.                    | S0052: 2               |  |
| HNGDR42 | 657404 | 4103 | 53 - 181  | 13855 | Ser-2 to Ser-9,<br>Thr-26 to Cys-36.   | S0052: 2               |  |
| HNGDR79 | 572904 | 4104 | 92 - 262  | 13856 |  | S0052: 2               |  |
| HNGDR81 | 572901 | 4105 | 2 - 124   | 13857 |  | S0052: 2               |  |
| HNGDR88 | 860666 | 4106 | 198 - 323 | 13858 | Asn-8 to Met-14.   | S0052: 2               |  |
| HNGDS04 | 572909 | 4107 | 3 - 263   | 13859 | His-1 to Pro-8,<br>Glu-16 to Pro-42,<br>Phe-63 to Lys-76,<br>Pro-78 to Asp-87. | S0052: 2               |  |
| HNGDS59 | 576763 | 4108 | 28 - 114  | 13860 | Gln-19 to Gly-24.  | S0052: 5               |  |
| HNGDS96 | 796488 | 4109 | 1 - 408   | 13861 | Arg-23 to Tyr-29,<br>Gly-36 to Gly-43.   | S0052: 1 and S0428: 1. |  |
| HNGDT36 | 572895 | 4110 | 3 - 290   | 13862 | His-1 to His-6,<br>Arg-21 to Trp-30,<br>Glu-40 to Ala-56,<br>Thr-83 to Trp-89. | S0052: 2               |  |
| HNGDU45 | 722062 | 4111 | 16 - 372  | 13863 | Pro-22 to Thr-28,<br>Gly-35 to Cys-43.   | S0052: 1 and S0053: 1. |  |
| HNGDV22 | 572910 | 4112 | 41 - 280  | 13864 |  | S0052: 2               |  |
| HNGDV25 | 573152 | 4113 | 128 - 259 | 13865 |  | H0341: 1 and S0052: 1. |  |



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| HNGDV59 | 739407 | 4114 | 112 - 2   | 13866 | Pro-2 to Ser-10,<br>Ser-16 to His-21.  | S0052: 2  |  |  |
| HNGDV96 | 796487 | 4115 | 192 - 446 | 13867 |  | S0052: 1 and S0428: 1.                                    |  |  |
| HNGDW23 | 576773 | 4116 | 3 - 221   | 13868 | Gly-9 to Arg-19,<br>Thr-23 to Trp-31,<br>Pro-37 to Arg-44,<br>Lys-53 to Gly-59,<br>Arg-65 to Ala-73. | S0052: 2  |  |  |
| HNGDW62 | 573162 | 4117 | 80 - 274  | 13869 |  | S0052: 2  |  |  |
| HNGDW95 | 661943 | 4118 | 267 - 425 | 13870 | Thr-25 to Glu-31.  | H0421: 1 and S0052: 1.                                    |  |  |
| HNGDX50 | 860661 | 4119 | 23 - 142  | 13871 | Thr-1 to Gly-18.   | S0052: 2  |  |  |
| HNGDY12 | 870390 | 4120 | 289 - 552 | 13872 |  | S0134: 1 and S0052: 1.                                    |  |  |
| HNGDY14 | 968042 | 4121 | 1 - 258   | 13873 | Gln-7 to Thr-17.   | S0052: 2  |  |  |
| HNGDY39 | 572908 | 4122 | 218 - 409 | 13874 | Arg-17 to Cys-24,<br>Pro-39 to Met-44.   | S0052: 2 and S0428: 1.                                    |  |  |
| HNGDY92 | 920168 | 4123 | 3 - 212   | 13875 | Lys-13 to Leu-26,<br>Glu-61 to Arg-70.   | S0052: 2  |  |  |
| HNGDZ52 | 572865 | 4124 | 221 - 361 | 13876 | Asp-1 to Ser-9.  | S0052: 2  |  |  |
| HNGEA44 | 572855 | 4125 | 2 - 118   | 13877 |  | S0052: 2  |  |  |
| HNGEA82 | 778879 | 4126 | 1 - 177   | 13878 | Gly-10 to Arg-21,<br>Val-28 to Lys-37,<br>Pro-54 to Tyr-59.  | S0052: 1 and S0053: 1.                                    |  |  |
| HNGEA88 | 578911 | 4127 | 20 - 190  | 13879 | Thr-23 to Leu-32.  | S0052: 2  |  |  |
| HNGEB79 | 576743 | 4128 | 2 - 220   | 13880 | Pro-25 to Ala-33,<br>Lys-42 to His-48.   | S0052: 2  |  |  |
| HNGEB81 | 572862 | 4129 | 12 - 242  | 13881 | Ala-10 to Cys-16,<br>Arg-33 to Trp-40.   | S0052: 2  |  |  |
| HNGEB91 | 924912 | 4130 | 123 - 338 | 13882 |  | S0052: 3  |  |  |
| HNGEC02 | 917530 | 4131 | 487 - 846 | 13883 | Pro-7 to Gly-13,<br>Gly-18 to Gly-38.  | AR054: 9, AR051: 4,<br>AR050: 0<br>H0556: 1 and S0052: 1. |  |  |
| HNGEC06 | 935840 | 4132 | 2 - 157   | 13884 | Ala-1 to Tyr-8.  | S0052: 2  |  |  |
| HNGEC41 | 782294 | 4133 | 11 - 217  | 13885 |  | S0052: 1 and S0216: 1.                                    |  |  |
| HNGEC43 | 573040 | 4134 | 258 - 374 | 13886 | Gln-1 to Thr-7.  | S0052: 2  |  |  |
| HNGEC44 | 806031 | 4135 | 162 - 359 | 13887 |  | S0052: 1 and S0428: 1.                                    |  |  |
| HNGEC75 | 916809 | 4136 | 199 - 597 | 13888 | Arg-1 to Trp-11,   | S0053: 2, H0439: 1, L0809:                                |  |  |

|         |        |      |           |       |  |   |  |
|---------|--------|------|-----------|-------|--|---|--|
| HNGED03 | 924696 | 4137 | 2 - 259   | 13889 | Pro-19 to Ser-33.<br>Ala-1 to Arg-9,<br>Ala-22 to Gln-33.  | 1, S0052: 1 and L0758: 1.<br>S0052: 1 and S0428: 1. |  |
| HNGED21 | 920156 | 4138 | 3 - 194   | 13890 | Asp-29 to Gln-42.  | S0052: 2  |  |
| HNGED77 | 572868 | 4139 | 95 - 277  | 13891 | His-7 to Ser-12.   | S0052: 2  |  |
| HNGED91 | 790309 | 4140 | 3 - 287   | 13892 |  | S0052: 1 and S0428: 1.                              |  |
| HNGEE18 | 573018 | 4141 | 1 - 207   | 13893 | Val-16 to His-21,<br>Ser-49 to Cys-59.   | S0052: 2  |  |
| HNGEE39 | 573065 | 4142 | 1 - 306   | 13894 | Pro-5 to Asn-10,<br>Trp-24 to Ser-29,<br>Met-58 to Arg-65,<br>Ala-67 to Gly-72,<br>Glu-78 to Glu-86. | S0052: 4  |  |
| HNGEF58 | 708692 | 4143 | 12 - 305  | 13895 |  | S0052: 2  |  |
| HNGEG45 | 572880 | 4144 | 22 - 168  | 13896 | Thr-37 to Gly-42.  | S0052: 2  |  |
| HNGEG74 | 860685 | 4145 | 200 - 418 | 13897 |  | S0052: 2  |  |
| HNGEG85 | 784431 | 4146 | 77 - 223  | 13898 | Thr-20 to Tyr-26.  | S0428: 2 and S0052: 1.                              |  |
| HNGEG86 | 573049 | 4147 | 2 - 172   | 13899 |  | S0052: 2  |  |
| HNGEI22 | 967310 | 4148 | 2 - 241   | 13900 | Arg-2 to Lys-23,<br>Gly-34 to Gly-45,<br>Tyr-64 to Lys-69.   | S0052: 2  |  |
| HNGEI47 | 720471 | 4149 | 142 - 453 | 13901 |  | S0052: 2  |  |
| HNGEJ04 | 932199 | 4150 | 53 - 253  | 13902 |  | S0052: 2  |  |
| HNGEJ22 | 573066 | 4151 | 1 - 195   | 13903 | Glu-1 to Thr-11,<br>Gly-27 to Gly-34,<br>Leu-46 to His-53.   | S0052: 3  |  |
| HNGEJ35 | 934987 | 4152 | 263 - 490 | 13904 |  | H0318: 1 and S0052: 1.                              |  |
| HNGEK30 | 572864 | 4153 | 47 - 202  | 13905 | Lys-13 to Leu-22,<br>Thr-26 to Lys-33.   | S0052: 2  |  |
| HNGEK44 | 576745 | 4154 | 1 - 291   | 13906 | Gly-1 to Asn-8,<br>Ala-23 to Ala-34,<br>Ile-80 to Trp-87.  | S0052: 3  |  |
| HNGEK68 | 753159 | 4155 | 46 - 342  | 13907 | Ser-1 to Lys-14,<br>Gly-18 to His-30,<br>Glu-35 to Lys-40.   | S0052: 2  |  |
| HNGEL62 | 958363 | 4156 | 1 - 333   | 13908 |  | S0052: 1, S0428: 1 and                              |  |

|         |        |      |           |       |   |   |          |                 |
|---------|--------|------|-----------|-------|---|---|----------|-----------------|
| HNGEL92 | 572867 | 4157 | 152 - 373 | 13909 |   | L0748: 1.   |          |                 |
| HNGEM38 | 573041 | 4158 | 156 - 272 | 13910 | Gln-1 to Ala-9,<br>Cys-24 to Lys-31.                        | S0052: 2 and S0428: 1.<br>S0052: 2  |          |                 |
| HNGEM53 | 860643 | 4159 | 42 - 272  | 13911 | Pro-27 to Gly-34,<br>Ser-37 to Arg-42.                      | S0052: 2  |          |                 |
| HNGEN37 | 663955 | 4160 | 2 - 259   | 13912 | Asn-9 to Arg-14,<br>Asn-21 to Leu-26.                       | AR089: 1, AR061: 0<br>S0052: 2  |          |                 |
| HNGEN45 | 572876 | 4161 | 204 - 362 | 13913 | Ser-15 to Thr-21.   | S0052: 2  |          |                 |
| HNGEP55 | 732262 | 4162 | 1 - 273   | 13914 | Gln-32 to Asn-39,<br>Arg-67 to Ser-73.                      | S0052: 2  |          |                 |
| HNGEP61 | 576749 | 4163 | 2 - 226   | 13915 | Gln-10 to Ala-20,<br>Thr-36 to Gly-43,<br>Arg-69 to Ile-74. | S0052: 2  |          |                 |
| HNGEP64 | 860631 | 4164 | 338 - 75  | 13916 | Val-1 to Lys-12.  | H0306: 1, H0402: 1, H0305:<br>1 and S0052: 1.                                 |          |                 |
| HNGEP70 | 572858 | 4165 | 31 - 108  | 13917 | His-1 to Asp-7.   | S0052: 2  |          |                 |
| HNGEP75 | 766574 | 4166 | 113 - 268 | 13918 |   | S0052: 1 and S0053: 1.  |          |                 |
| HNGEP77 | 861710 | 4167 | 145 - 366 | 13919 | Gly-1 to Gly-9,<br>Glu-67 to Arg-73.                        | H0271: 1, S0052: 1 and<br>L0439: 1.   |          |                 |
| HNGEP81 | 778161 | 4168 | 566 - 880 | 13920 |   | S0052: 1, S0216: 1 and<br>H0445: 1.   |          |                 |
| HNGEQ07 | 953647 | 4169 | 44 - 349  | 13921 | Ala-15 to Phe-23,<br>Glu-35 to Gly-41.                      | S0052: 1 and S0216: 1.  |          |                 |
| HNGEQ32 | 572984 | 4170 | 3 - 278   | 13922 | Thr-7 to Gly-13.  | H0341: 1, L0769: 1, L0789:<br>1, L0791: 1, S0052: 1 and<br>L0777: 1.          |          |                 |
| HNGEQ67 | 860687 | 4171 | 73 - 270  | 13923 |   | S0052: 2 and S0428: 1.  |          |                 |
| HNGER25 | 572873 | 4172 | 2 - 97    | 13924 |   | S0052: 2  |          |                 |
| HNGER43 | 699391 | 4173 | 97 - 204  | 13925 |   | AR061: 3, AR089: 2<br>S0052: 3  |          |                 |
| HNGER67 | 578903 | 4174 | 337 - 507 | 13926 |   | S0052: 2  |          |                 |
| HNGER82 | 945838 | 4175 | 226 - 546 | 13927 | Asn-1 to Gly-6,<br>Gln-23 to Gly-29.                        | AR061: 1, AR089: 1<br>L0748: 5, H0444: 2, H0402:<br>1, L0367: 1 and S0052: 1. |          |                 |
| HNGER84 | 586451 | 4176 | 116 - 319 | 13928 |   | S0052: 2  | 2p22-p21 | 120435, 120435, |

|         |        |      |           |       |  |   |  |  |   |
|---------|--------|------|-----------|-------|--|---|--|--|---|
|         |        |      |           |       |  |   |  |  | 126600, 135300,<br>136435, 152790,<br>152790, 157170,<br>182601, 278300,<br>601071, 601771,<br>602134 |
| HNGER96 | 922996 | 4177 | 3 - 362   | 13929 |  |   |  | S0052: 1 and S0428: 1.   |   |
| HNGES56 | 733543 | 4178 | 2 - 265   | 13930 |  |   |  | S0114: 1 and S0052: 1.   |   |
| HNGES59 | 490034 | 4179 | 381 - 524 | 13931 |  | Ala-7 to Thr-12,<br>Pro-37 to Gly-44.                       |  | S0114: 1, S0052: 1 and<br>H0444: 1.                                  |   |
| HNGES89 | 573013 | 4180 | 1 - 240   | 13932 |  | Glu-8 to Gln-15.  |  | S0052: 2   |   |
| HNGET07 | 953618 | 4181 | 190 - 324 | 13933 |  |   |  | S0052: 2   |   |
| HNGET31 | 506498 | 4182 | 67 - 219  | 13934 |  |   |  | S0052: 2   |   |
| HNGET67 | 953529 | 4183 | 49 - 219  | 13935 |  | Gln-11 to Cys-17,<br>Phe-26 to Gly-34,<br>Ala-45 to Phe-53. |  | S0052: 8   |   |
| HNGEU35 | 853582 | 4184 | 396 - 695 | 13936 |  | Pro-29 to Thr-34,<br>Ser-59 to Thr-66.                      |  | S0052: 2 and H0063: 1.   |   |
| HNGEU37 | 860626 | 4185 | 146 - 15  | 13937 |  |   |  | S0052: 2   |   |
| HNGEV33 | 781207 | 4186 | 48 - 404  | 13938 |  | Pro-7 to Ser-13.  |  | S0052: 3   |   |
| HNGEV34 | 490914 | 4187 | 373 - 486 | 13939 |  | Lys-1 to Gly-9.   |  | H0255: 2 and S0052: 1.   |   |
|         | 537746 | 9583 | 468 - 620 | 19335 |  |   |  |  |   |
| HNGEV38 | 572882 | 4188 | 3 - 326   | 13940 |  | His-1 to Arg-7,<br>Arg-78 to Leu-83,<br>Cys-87 to Gly-99.   |  | S0052: 2   |   |
| HNGEV40 | 572894 | 4189 | 110 - 316 | 13941 |  |   |  | S0052: 3   |   |
| HNGEV53 | 573090 | 4190 | 65 - 211  | 13942 |  |   |  | S0052: 2   |   |
| HNGEV59 | 576750 | 4191 | 186 - 317 | 13943 |  |   |  | S0052: 2   |   |
| HNGEV65 | 750391 | 4192 | 390 - 599 | 13944 |  | Ile-54 to Gln-70.   |  | L0748: 2, S0218: 1, S0052:<br>1, L0746: 1, L0749: 1 and<br>L0608: 1. |   |
| HNGEV70 | 573089 | 4193 | 1 - 141   | 13945 |  |   |  | S0052: 2   |   |
| HNGEV75 | 506312 | 4194 | 103 - 258 | 13946 |  | Arg-14 to Asp-23.   |  | S0052: 2   |   |
| HNGEV86 | 789128 | 4195 | 2 - 103   | 13947 |  | Thr-9 to Lys-15.  |  | S0052: 1 and S0053: 1.   |   |
| HNGEV88 | 750542 | 4196 | 149 - 340 | 13948 |  |   |  | S0052: 2   | 225500, 600593,<br>602363   |

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|---------|--------|------|-----------|-------|---|------------------------|--|
| HNGEW18 | 958328 | 4197 | 14 - 136  | 13949 | Ser-11 to Tyr-16.   | S0052: 1 and S0428: 1. |  |
| HNGEW76 | 572874 | 4198 | 104 - 274 | 13950 | Ile-44 to His-52.   | S0052: 2               |  |
| HNGEX06 | 935838 | 4199 | 147 - 323 | 13951 | Thr-1 to Phe-7,<br>Ile-39 to Asn-45.  | S0052: 3 and S0428: 1. |  |
| HNGEX35 | 959230 | 4200 | 14 - 376  | 13952 |   | S0052: 2               |  |
| HNGEX76 | 834919 | 4201 | 59 - 337  | 13953 |   | H0179: 1 and S0052: 1. |  |
| HNGEX95 | 572897 | 4202 | 124 - 327 | 13954 |   | S0052: 2               |  |
| HNGEY41 | 973310 | 4203 | 123 - 293 | 13955 |   | S0052: 2               |  |
| HNGEY50 | 676067 | 4204 | 2 - 154   | 13956 |   | S0052: 2               |  |
| HNGEY60 | 920375 | 4205 | 1 - 171   | 13957 | Val-21 to Gly-33,<br>Glu-45 to Gly-50.  | S0052: 2               |  |
| HNGEY80 | 790222 | 4206 | 256 - 426 | 13958 | Ser-22 to Trp-31.   | S0052: 2               |  |
| HNGEY84 | 752239 | 4207 | 188 - 481 | 13959 | Glu-7 to Asn-15.  | H0179: 1 and S0052: 1. |  |
| HNGEZ45 | 574462 | 4208 | 79 - 333  | 13960 | Glu-1 to Gln-18,<br>Lys-46 to Lys-53.   | S0052: 3               |  |
| HNGFA28 | 774277 | 4209 | 248 - 679 | 13961 |   | S0052: 1 and S0216: 1. |  |
| HNGFA39 | 424813 | 4210 | 41 - 478  | 13962 | Thr-17 to Gly-30,<br>Gly-32 to Val-38.  | S0052: 2               |  |
| HNGFA41 | 952235 | 4211 | 148 - 2   | 13963 |   | S0052: 1 and S0428: 1. |  |
| HNGFA67 | 576719 | 4212 | 151 - 318 | 13964 |   | S0052: 2               |  |
| HNGFA80 | 963490 | 4213 | 65 - 349  | 13965 |   | S0052: 1 and S0428: 1. |  |
| HNGFB08 | 959738 | 4214 | 3 - 131   | 13966 |   | S0052: 2               |  |
| HNGFB52 | 573575 | 4215 | 1 - 339   | 13967 | Gly-1 to Ala-15,<br>Ala-17 to Ser-25,<br>Pro-32 to Arg-44,<br>Pro-55 to His-60. | H0305: 2 and S0052: 1. |  |
| HNGFB57 | 868072 | 4216 | 129 - 263 | 13968 | Pro-14 to Ser-21.   | S0052: 2               |  |
| HNGFB74 | 573024 | 4217 | 2 - 136   | 13969 | Pro-2 to Thr-11,<br>Lys-22 to Leu-27.   | S0052: 2               |  |
| HNGFC71 | 573160 | 4218 | 3 - 167   | 13970 | Glu-25 to Trp-33,<br>Leu-49 to Arg-55.  | S0052: 1 and S0053: 1. |  |
| HNGFD63 | 835997 | 4219 | 54 - 470  | 13971 | Pro-10 to Ser-19,<br>Ser-29 to Leu-47,<br>Ala-60 to Gly-66.                     | S0052: 1 and S0053: 1. |  |
| HNGFD75 | 823462 | 4220 | 1 - 366   | 13972 |   | S0052: 2               |  |

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|---------|--------|------|-----------|-------|---|-------------------------------------|--|--|
| HNGFD85 | 783467 | 4221 | 118 - 351 | 13973 | Lys-7 to Thr-20,<br>Ser-28 to Gly-43.   | S0052: 1 and S0428: 1.              |  |  |
| HNGFD96 | 968248 | 4222 | 40 - 285  | 13974 |   | S0052: 2, L0742: 2 and<br>L0592: 1. |  |  |
| HNGFF35 | 805996 | 4223 | 194 - 451 | 13975 | Pro-1 to Asn-10,<br>Arg-23 to Cys-29.   | S0052: 1 and S0428: 1.              |  |  |
| HNGFG22 | 573084 | 4224 | 91 - 261  | 13976 | Gly-25 to Ser-35,<br>Ser-44 to Val-49,<br>Ser-51 to Asp-57.                     | AR061: 8, AR089: 3<br>S0052: 2      |  |  |
| HNGFG51 | 725787 | 4225 | 45 - 200  | 13977 |   | H0305: 2 and S0052: 1.              |  |  |
| HNGFG57 | 860595 | 4226 | 40 - 339  | 13978 | Arg-1 to Lys-8,<br>Arg-60 to Trp-66,<br>Leu-68 to Ile-74,<br>Glu-82 to Gly-89.  | S0052: 2 and L0748: 1.              |  |  |
| HNGFG69 | 926873 | 4227 | 1 - 315   | 13979 | Pro-6 to Ser-13,<br>Arg-19 to Gln-35,<br>Thr-54 to Ala-61,<br>His-73 to Cys-78. | S0052: 1 and S0428: 1.              |  |  |
| HNGFH94 | 966118 | 4228 | 262 - 393 | 13980 | Lys-1 to Arg-15,<br>Pro-17 to Asp-23,<br>Pro-38 to Lys-44.                      | S0052: 1 and S0428: 1.              |  |  |
| HNGFI06 | 935828 | 4229 | 240 - 371 | 13981 |   | S0052: 1 and S0428: 1.              |  |  |
| HNGFI20 | 578896 | 4230 | 90 - 332  | 13982 | Gly-20 to Lys-26,<br>Pro-40 to Lys-47.  | S0052: 2                            |  |  |
| HNGFI32 | 699398 | 4231 | 224 - 346 | 13983 |   | H0255: 1 and S0052: 1.              |  |  |
| HNGFI81 | 578892 | 4232 | 202 - 381 | 13984 |   | S0052: 2                            |  |  |
| HNGFI27 | 860591 | 4233 | 78 - 272  | 13985 |   | S0002: 1 and S0052: 1.              |  |  |
| HNGFK28 | 544726 | 4234 | 1 - 756   | 13986 | Gln-4 to Asn-15,<br>Ser-104 to Gly-111,<br>Leu-230 to Pro-237.                  | AR061: 6, AR089: 2<br>S0052: 3      |  |  |
|         | 566798 | 9584 | 1 - 756   | 19336 | Glu-4 to Asn-15,<br>Ser-104 to Gly-111,<br>Leu-230 to Pro-237.                  |                                     |  |  |
|         | 943114 | 9585 | 351 - 1   | 19337 | Gln-1 to Ile-15,<br>Leu-76 to Arg-82,<br>Gln-90 to Thr-96.                      |                                     |  |  |

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|         | 943115 | 9586 | 3 - 530   | 19338 | Glu-6 to Asn-17,<br>Ser-106 to Gly-113.  |                                     |  |  |
| HNGFK44 | 860589 | 4235 | 46 - 177  | 13987 |  | S0052: 2                            |  |  |
| HNGFL04 | 572833 | 4236 | 1 - 153   | 13988 | Ser-4 to Thr-12,<br>Thr-23 to Thr-30.  | S0052: 2                            |  |  |
| HNGFM50 | 584729 | 4237 | 1 - 324   | 13989 | Thr-2 to Arg-11,<br>Asp-30 to Gly-35.  | S0052: 2                            |  |  |
| HNGFM74 | 578884 | 4238 | 471 - 310 | 13990 | Glu-19 to Pro-24,<br>Ser-49 to Thr-54.   | H0583: 1, H0402: 1 and<br>S0052: 1. |  |  |
| HNGFM79 | 860585 | 4239 | 1 - 300   | 13991 | Pro-35 to Ser-40,<br>Thr-64 to Ser-70.   | S0052: 2                            |  |  |
| HNGFN21 | 572821 | 4240 | 2 - 205   | 13992 | Ser-12 to Thr-19,<br>Pro-58 to Gln-65.   | S0052: 3, H0556: 1 and<br>L0777: 1. |  |  |
| HNGFN56 | 970740 | 4241 | 167 - 349 | 13993 |  | S0052: 3                            |  |  |
| HNGFN65 | 576698 | 4242 | 1 - 285   | 13994 | Gln-21 to Gly-29,<br>Pro-39 to Asn-44.   | S0052: 2                            |  |  |
| HNGFN96 | 770209 | 4243 | 170 - 295 | 13995 |  | S0052: 2                            |  |  |
| HNGFO46 | 935135 | 4244 | 3 - 215   | 13996 | Pro-1 to Gly-6.  | H0580: 2 and S0052: 1.              |  |  |
| HNGFO55 | 572856 | 4245 | 3 - 266   | 13997 | Lys-16 to Arg-21,<br>Leu-30 to Pro-35,<br>Asn-48 to Gly-53,<br>Ala-68 to Ser-78. | S0052: 2                            |  |  |
| HNGFO81 | 526792 | 4246 | 69 - 263  | 13998 | Pro-48 to Gly-55.  | AR061: 2, AR089: 0<br>S0052: 2      |  |  |
| HNGFP02 | 920483 | 4247 | 11 - 205  | 13999 | Lys-25 to Glu-36.  | S0052: 2                            |  |  |
| HNGFP08 | 959730 | 4248 | 2 - 376   | 14000 | Gln-34 to Gly-39,<br>Lys-70 to Gly-80.   | S0052: 2                            |  |  |
| HNGFP62 | 573052 | 4249 | 42 - 302  | 14001 |  | S0052: 1 and S0053: 1.              |  |  |
| HNGFP80 | 931021 | 4250 | 109 - 372 | 14002 |  | S0052: 2                            |  |  |
| HNGFP93 | 707332 | 4251 | 187 - 360 | 14003 | Asn-1 to Gln-9.  | S0052: 3                            |  |  |
| HNGFQ36 | 703715 | 4252 | 74 - 370  | 14004 | His-1 to Gly-15.   | H0580: 1 and S0052: 1.              |  |  |
| HNGFQ58 | 576715 | 4253 | 109 - 279 | 14005 | Thr-22 to Asp-28,<br>Glu-43 to Gly-49.   | S0052: 2 and H0583: 1.              |  |  |
| HNGFR02 | 920482 | 4254 | 89 - 286  | 14006 | Lys-8 to Lys-19,<br>Glu-25 to Glu-34,<br>Ala-38 to Gln-53.                       | S0052: 1 and S0428: 1.              |  |  |

|         |        |      |           |       |   |  |  |
|---------|--------|------|-----------|-------|---|--|--|
| HNGFR16 | 573358 | 4255 | 37 - 303  | 14007 |   | S0053: 2 and S0052: 1.                       |  |
| HNGFR48 | 860245 | 4256 | 178 - 450 | 14008 | Cys-41 to Ser-47.   | S0052: 1, S0428: 1 and L0748: 1.             |  |
| HNGFR73 | 646263 | 4257 | 268 - 405 | 14009 |   | S0052: 2 and H0063: 1.                       |  |
| HNGFR80 | 576713 | 4258 | 185 - 337 | 14010 | Pro-7 to Lys-20,<br>Glu-45 to Cys-50.                       | S0052: 3                                     |  |
| HNGFR85 | 572838 | 4259 | 151 - 240 | 14011 | Phe-17 to His-23.   | S0052: 2                                     |  |
| HNGFS46 | 573094 | 4260 | 3 - 209   | 14012 |   | S0052: 2                                     |  |
| HNGFS58 | 932396 | 4261 | 2 - 313   | 14013 |   | S0052: 2                                     |  |
| HNGFS71 | 572828 | 4262 | 132 - 341 | 14014 |   | S0052: 2                                     |  |
| HNGFT19 | 671599 | 4263 | 2 - 214   | 14015 | Met-13 to Phe-23,<br>Gln-29 to Trp-40,<br>Arg-63 to Lys-71. | S0052: 1 and S0053: 1.                       |  |
| HNGFT77 | 772335 | 4264 | 113 - 328 | 14016 | Gly-1 to Glu-9.   | S0052: 1 and S0216: 1.                       |  |
| HNGFU12 | 971170 | 4265 | 45 - 290  | 14017 |   | AR089: 4, AR061: 1<br>S0052: 1 and S0428: 1. |  |
| HNGFU28 | 860576 | 4266 | 82 - 189  | 14018 |   | S0052: 2                                     |  |
| HNGFU40 | 559450 | 4267 | 2 - 367   | 14019 | Arg-16 to Thr-40.   | S0052: 2                                     |  |
| HNGFV03 | 924670 | 4268 | 2 - 211   | 14020 |   | S0052: 1 and S0428: 1.                       |  |
| HNGFV32 | 806047 | 4269 | 15 - 326  | 14021 |   | S0052: 1 and S0428: 1.                       |  |
| HNGFW09 | 924693 | 4270 | 218 - 340 | 14022 |   | S0052: 2                                     |  |
| HNGFW15 | 578901 | 4271 | 3 - 200   | 14023 | Trp-8 to Ser-14.  | S0052: 2                                     |  |
| HNGFW31 | 578864 | 4272 | 149 - 331 | 14024 | Ile-1 to Asn-21,<br>Lys-38 to Thr-43.                       | S0052: 2                                     |  |
| HNGFW82 | 839957 | 4273 | 7 - 87    | 14025 | Ser-3 to Leu-10.  | S0052: 2                                     |  |
| HNGFW96 | 959715 | 4274 | 360 - 473 | 14026 |   | S0052: 3                                     |  |
| HNGGA08 | 959637 | 4275 | 78 - 206  | 14027 | Ser-34 to Phe-41.   | S0052: 2                                     |  |
| HNGGA10 | 964820 | 4276 | 102 - 263 | 14028 |   | S0052: 2                                     |  |
| HNGGA20 | 764502 | 4277 | 27 - 290  | 14029 | Leu-39 to Ile-46,<br>Pro-48 to Pro-53.                      | H0250: 2 and S0052: 2.                       |  |
| HNGGA40 | 506337 | 4278 | 68 - 256  | 14030 | Thr-45 to Cys-53.   | S0052: 2                                     |  |
| HNGGA44 | 577362 | 4279 | 136 - 2   | 14031 |   | S0052: 2 and S0428: 1.                       |  |
| HNGGA53 | 576212 | 4280 | 154 - 348 | 14032 | Gly-56 to Ala-62.   | S0052: 2                                     |  |
| HNGGA90 | 572869 | 4281 | 1 - 210   | 14033 |   | S0052: 3                                     |  |
| HNGGB09 | 881399 | 4282 | 217 - 294 | 14034 |   | S0052: 2                                     |  |



|         |        |      |           |       |   |                        |  |
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| HNGGE10 | 964821 | 4283 | 28 - 171  | 14035 |   | S0052: 2               |  |
| HNGGE38 | 576217 | 4284 | 53 - 136  | 14036 | Gly-8 to Arg-17.  | S0052: 2 and S0428: 1. |  |
| HNGGF02 | 840277 | 4285 | 56 - 301  | 14037 |   | S0052: 2               |  |
| HNGGF03 | 924587 | 4286 | 165 - 383 | 14038 |   | S0052: 2               |  |
| HNGGF06 | 935709 | 4287 | 19 - 153  | 14039 | Gly-18 to Thr-24,<br>Pro-38 to Lys-45.                      | S0052: 2               |  |
| HNGGF26 | 577369 | 4288 | 65 - 226  | 14040 | Arg-15 to Leu-20.   | S0052: 3               |  |
| HNGGF57 | 576256 | 4289 | 131 - 319 | 14041 | Arg-1 to Val-10,<br>Ser-15 to Phe-24,<br>Leu-46 to Lys-52.  | S0052: 2               |  |
| HNGGG02 | 920379 | 4290 | 2 - 298   | 14042 | Pro-23 to Asn-28,<br>Ser-43 to Gly-51,<br>Gly-75 to Trp-86. | S0052: 2               |  |
| HNGGG10 | 964818 | 4291 | 9 - 185   | 14043 | Ser-7 to Asp-19,<br>Trp-32 to Val-38,<br>Lys-45 to Asp-53.  | S0052: 4               |  |
| HNGGG15 | 576294 | 4292 | 2 - 160   | 14044 | Tyr-18 to Asn-23.   | S0052: 2               |  |
| HNGGG18 | 506304 | 4293 | 64 - 282  | 14045 | Ala-27 to Gln-32.   | S0052: 2               |  |
| HNGGG22 | 576267 | 4294 | 124 - 276 | 14046 | Gln-9 to Glu-14.  | S0052: 2               |  |
| HNGGG25 | 679153 | 4295 | 2 - 106   | 14047 |   | S0052: 2               |  |
| HNGGG26 | 576298 | 4296 | 2 - 283   | 14048 | Asn-28 to Ser-35,<br>Lys-50 to Pro-56.                      | S0052: 2               |  |
| HNGGG50 | 576295 | 4297 | 135 - 296 | 14049 |   | S0052: 2               |  |
| HNGGG56 | 733510 | 4298 | 160 - 309 | 14050 |   | S0052: 2               |  |
| HNGGG63 | 576296 | 4299 | 127 - 378 | 14051 | Gln-10 to Gln-18,<br>Glu-25 to Val-30.                      | S0052: 2               |  |
| HNGGG76 | 576231 | 4300 | 89 - 232  | 14052 |   | S0052: 2               |  |
| HNGGH38 | 582695 | 4301 | 1 - 156   | 14053 | Gly-6 to Ala-14.  | S0052: 2               |  |
| HNGGH48 | 576705 | 4302 | 106 - 303 | 14054 | Leu-9 to Cys-14,<br>Ile-44 to Asp-50,<br>Ser-56 to Leu-62.  | S0052: 2               |  |
| HNGGH57 | 576278 | 4303 | 3 - 143   | 14055 | Lys-16 to His-21,<br>Ala-32 to Tyr-37.                      | S0052: 2               |  |
| HNGGH64 | 860426 | 4304 | 169 - 423 | 14056 | Glu-19 to Gly-26,<br>Gly-41 to Thr-47,<br>Ser-79 to Glu-85. | S0052: 2               |  |

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| HNGGH74 | 577192 | 4305 | 164 - 346 | 14057 |   |  | S0052: 2               |  |
| HNGGH78 | 924908 | 4306 | 159 - 431 | 14058 | Lys-19 to Arg-26.   |  | S0052: 2               |  |
| HNGGH95 | 576214 | 4307 | 36 - 344  | 14059 |   |  | S0052: 3               |  |
| HNGGI08 | 959639 | 4308 | 3 - 158   | 14060 | Asn-11 to Gly-18,<br>Glu-28 to Gly-35.                      |  | S0052: 2               |  |
| HNGGI52 | 576270 | 4309 | 1 - 168   | 14061 | Arg-14 to Arg-19.   |  | S0052: 3               |  |
| HNGGI58 | 825371 | 4310 | 1 - 117   | 14062 |   |  | S0052: 2               |  |
| HNGGI81 | 830081 | 4311 | 155 - 286 | 14063 |   |  | S0052: 3 and L0600: 2. |  |
| HNGGK31 | 576259 | 4312 | 72 - 1    | 14064 | Lys-1 to Lys-7.   |  | S0052: 2               |  |
| HNGGK53 | 576253 | 4313 | 2 - 202   | 14065 | Lys-20 to Trp-27.   |  | S0052: 2               |  |
| HNGGK86 | 576247 | 4314 | 102 - 269 | 14066 |   |  | S0052: 2               |  |
| HNGGK94 | 576255 | 4315 | 69 - 179  | 14067 | Ser-1 to Tyr-7.   |  | S0052: 2               |  |
| HNGGL51 | 576758 | 4316 | 48 - 260  | 14068 | Gln-29 to Lys-35,<br>Lys-46 to Arg-52,<br>Ser-58 to Ser-63. |  | S0052: 2               |  |
| HNGGM10 | 964819 | 4317 | 175 - 582 | 14069 | Lys-1 to Asn-8.   |  | S0052: 1 and S0428: 1. |  |
| HNGGM41 | 576284 | 4318 | 137 - 316 | 14070 | Ser-22 to Arg-28.   |  | S0052: 2               |  |
| HNGGM56 | 576219 | 4319 | 1 - 150   | 14071 | Asn-9 to Trp-16,<br>Ala-20 to Phe-31,<br>Lys-39 to Gly-45.  |  | S0052: 2               |  |
| HNGGM67 | 576220 | 4320 | 189 - 380 | 14072 | Arg-29 to Trp-34.   |  | S0052: 2               |  |
| HNGGM76 | 576287 | 4321 | 2 - 298   | 14073 | Ser-19 to Ser-24.   |  | S0052: 2               |  |
| HNGGM92 | 576229 | 4322 | 85 - 309  | 14074 |   |  | S0052: 2               |  |
| HNGGN03 | 924578 | 4323 | 1 - 294   | 14075 | Pro-22 to Thr-28,<br>Pro-63 to Arg-70.                      |  | S0052: 2               |  |
| HNGGN04 | 576263 | 4324 | 2 - 238   | 14076 |   |  | S0052: 2               |  |
| HNGGN16 | 576268 | 4325 | 43 - 255  | 14077 | Pro-8 to Gly-18.  |  | S0052: 2               |  |
| HNGGN36 | 708119 | 4326 | 2 - 211   | 14078 | His-14 to Trp-27.   |  | S0052: 2               |  |
| HNGGN64 | 577319 | 4327 | 1 - 123   | 14079 |   |  | S0052: 2               |  |
| HNGGN94 | 967253 | 4328 | 14 - 127  | 14080 | Gly-20 to Gln-28.   |  | S0052: 2               |  |
| HNGGO01 | 916754 | 4329 | 155 - 340 | 14081 | Lys-30 to Thr-36.   |  | S0052: 2               |  |
| HNGGO14 | 860246 | 4330 | 164 - 328 | 14082 | Phe-40 to Gln-48.   |  | S0052: 1 and S0428: 1. |  |
| HNGGO25 | 576277 | 4331 | 2 - 163   | 14083 |   |  | S0052: 2               |  |
| HNGGQ31 | 576238 | 4332 | 1 - 132   | 14084 | Gly-1 to Gln-8,<br>Ser-16 to Arg-21.                        |  | S0052: 2               |  |

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| HNGGQ41 | 712426 | 4333 | 257 - 475 | 14085 | Trp-1 to Gly-7.                                      | L0748: 4, S0052: 1 and S0428: 1.                     |  |  |
| HNGGQ65 | 576249 | 4334 | 1 - 147   | 14086 |  | S0052: 2   |  |  |
| HNGGQ89 | 577327 | 4335 | 56 - 337  | 14087 | Arg-10 to Pro-18, Pro-38 to Asp-53.                  | S0052: 2 and S0428: 2.                               |  |  |
| HNGGR01 | 916753 | 4336 | 167 - 364 | 14088 | Leu-49 to Asn-54.                                    | L0748: 3, L0766: 1, S0052: 1, L0751: 1 and H0445: 1. |  |  |
| HNGGR10 | 964815 | 4337 | 121 - 255 | 14089 |  | S0052: 3   |  |  |
| HNGGR17 | 576250 | 4338 | 44 - 229  | 14090 |  | S0052: 2   |  |  |
| HNGGR43 | 576246 | 4339 | 214 - 447 | 14091 | Gly-14 to His-23, Trp-40 to Ser-53.                  | S0052: 2   |  |  |
| HNGGR74 | 765698 | 4340 | 8 - 82    | 14092 |  | AR089: 1, AR061: 0 S0052: 3                          |  |  |
| HNGGS09 | 970861 | 4341 | 1 - 156   | 14093 | Pro-4 to Gly-14.                                     | S0052: 6   |  |  |
| HNGGS26 | 825369 | 4342 | 54 - 353  | 14094 | Tyr-1 to Asp-6, Thr-13 to Val-27.                    | S0052: 2   |  |  |
| HNGGS33 | 576305 | 4343 | 217 - 423 | 14095 | Glu-8 to Glu-14, Thr-40 to Asn-53.                   | S0052: 2   |  |  |
| HNGGS41 | 576308 | 4344 | 3 - 77    | 14096 |  | S0052: 2   |  |  |
| HNGGS66 | 576312 | 4345 | 64 - 192  | 14097 | Pro-11 to Pro-16, Arg-34 to Glu-39.                  | S0052: 2   |  |  |
| HNGGS67 | 751781 | 4346 | 2 - 112   | 14098 |  | S0052: 3   |  |  |
| HNGGS73 | 576740 | 4347 | 57 - 200  | 14099 | Ser-16 to Ser-26.                                    | S0052: 3   |  |  |
| HNGGS78 | 576311 | 4348 | 1 - 183   | 14100 | Gly-1 to Asn-25.                                     | S0052: 2   |  |  |
| HNGGT44 | 576297 | 4349 | 143 - 325 | 14101 |  | S0052: 2   |  |  |
| HNGGT46 | 719127 | 4350 | 46 - 288  | 14102 |  | S0052: 2   |  |  |
| HNGGT55 | 576302 | 4351 | 75 - 314  | 14103 | Cys-11 to Ser-17.                                    | S0052: 2   |  |  |
| HNGGT57 | 576301 | 4352 | 1 - 249   | 14104 |  | S0052: 2   |  |  |
| HNGGT58 | 576299 | 4353 | 2 - 376   | 14105 | Tyr-12 to Gln-22.                                    | S0052: 4   |  |  |
| HNGGT62 | 725750 | 4354 | 3 - 110   | 14106 | Pro-10 to Cys-16, Pro-27 to Asn-33.                  | S0052: 2   |  |  |
| HNGGV07 | 953549 | 4355 | 54 - 194  | 14107 |  | S0052: 2   |  |  |
| HNGGV55 | 576313 | 4356 | 1 - 300   | 14108 | Pro-7 to Val-16, Ala-42 to Gly-47, Tyr-72 to Pro-82. | S0052: 2   |  |  |

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| HNGGV70 | 781247 | 4357 | 178 - 363 | 14109 | Tyr-4 to Ser-11.  | S0052: 2, H0521: 1 and H0543: 1. |  |
| HNGGV95 | 795920 | 4358 | 216 - 437 | 14110 | Pro-7 to Arg-14.  | S0052: 2                         |  |
| HNGGX46 | 868071 | 4359 | 3 - 278   | 14111 |   | S0052: 2                         |  |
| HNGGX49 | 860551 | 4360 | 128 - 331 | 14112 |   | S0052: 2                         |  |
| HNGGX91 | 576188 | 4361 | 71 - 274  | 14113 |   | S0052: 2                         |  |
| HNGGX93 | 576193 | 4362 | 1 - 276   | 14114 | Pro-2 to Leu-7,<br>Pro-25 to Cys-30,<br>Gly-42 to Glu-49.   | S0052: 2                         |  |
| HNGGX95 | 576222 | 4363 | 2 - 292   | 14115 |   | S0052: 2                         |  |
| HNGHA08 | 953539 | 4364 | 2 - 229   | 14116 | Lys-38 to Arg-43,<br>Thr-70 to Ser-75.                      | S0052: 2                         |  |
| HNGHA10 | 860553 | 4365 | 243 - 467 | 14117 | Arg-37 to Thr-48.   | S0052: 1 and S0428: 1.           |  |
| HNGHA47 | 576213 | 4366 | 2 - 295   | 14118 | Cys-20 to Ser-31,<br>Arg-50 to Ser-58.                      | S0052: 2                         |  |
| HNGHA70 | 576300 | 4367 | 161 - 292 | 14119 | Ser-22 to Ala-30,<br>Val-34 to Trp-41.                      | S0052: 2                         |  |
| HNGHA77 | 772279 | 4368 | 2 - 217   | 14120 | Ala-15 to Leu-20,<br>His-26 to Leu-33,<br>Cys-35 to Thr-46. | S0052: 2                         |  |
| HNGHB07 | 860552 | 4369 | 73 - 384  | 14121 | Arg-21 to Asn-26.   | S0052: 2                         |  |
| HNGHB31 | 576306 | 4370 | 17 - 322  | 14122 | Pro-22 to Ser-29,<br>Thr-51 to Gly-61,<br>Gly-76 to His-87. | S0052: 2                         |  |
| HNGHB33 | 506261 | 4371 | 15 - 92   | 14123 | Gly-13 to Pro-22.   | S0052: 2                         |  |
| HNGHB48 | 463007 | 4372 | 306 - 548 | 14124 |   | S0052: 3                         |  |
| HNGHB55 | 733509 | 4373 | 308 - 475 | 14125 | Asn-6 to Thr-19.  | S0052: 4                         |  |
| HNGHB80 | 576769 | 4374 | 1 - 306   | 14126 | Gly-1 to Gly-6.   | S0052: 2                         |  |
| HNGHB91 | 576215 | 4375 | 158 - 529 | 14127 | Asn-69 to Glu-81,<br>Lys-104 to Ser-110.                    | S0052: 2                         |  |
| HNGHD04 | 932099 | 4376 | 1 - 339   | 14128 | Ala-102 to Pro-107.   | S0052: 2                         |  |
| HNGHD09 | 860544 | 4377 | 29 - 211  | 14129 | Glu-2 to Pro-14,<br>Ala-29 to Thr-38,<br>Glu-45 to Gly-51.  | S0052: 2                         |  |
| HNGHD22 | 576314 | 4378 | 26 - 223  | 14130 | Pro-14 to Cys-20,<br>Asn-22 to Leu-31.                      | S0052: 2                         |  |

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| HNGHD25 | 506262 | 4379 | 61 - 318  | 14131 | Phe-1 to Ser-6,<br>Gln-8 to Glu-20,<br>Leu-54 to Ala-60.   | S0052: 2               |  |
| HNGHD59 | 836226 | 4380 | 82 - 357  | 14132 |  | S0052: 2               |  |
| HNGHD67 | 576317 | 4381 | 321 - 443 | 14133 |  | S0052: 3               |  |
| HNGHE07 | 953540 | 4382 | 71 - 184  | 14134 | Arg-24 to Gly-29.  | S0052: 2               |  |
| HNGHE17 | 576209 | 4383 | 64 - 180  | 14135 |  | S0052: 3               |  |
| HNGHE52 | 576197 | 4384 | 41 - 280  | 14136 |  | S0052: 2               |  |
| HNGHE56 | 577124 | 4385 | 169 - 357 | 14137 | Pro-7 to Gly-14,<br>Pro-28 to Gln-34.                      | S0052: 2               |  |
| HNGHE62 | 576202 | 4386 | 31 - 279  | 14138 |  | S0052: 2               |  |
| HNGHE69 | 753107 | 4387 | 232 - 516 | 14139 | Gly-21 to Ile-32,<br>Lys-34 to Trp-41.                     | S0052: 2               |  |
| HNGHE95 | 779951 | 4388 | 2 - 157   | 14140 |  | S0052: 5               |  |
| HNGHG15 | 971736 | 4389 | 1 - 177   | 14141 | Gly-1 to Ser-12,<br>Pro-21 to Ser-27.                      | S0052: 2               |  |
| HNGHG22 | 577414 | 4390 | 129 - 263 | 14142 | Lys-7 to Gly-14,<br>Phe-26 to Gly-33.                      | S0052: 2               |  |
| HNGHG56 | 576230 | 4391 | 147 - 260 | 14143 | Pro-11 to Gly-16.  | S0052: 2               |  |
| HNGHG68 | 576232 | 4392 | 216 - 344 | 14144 | Gly-2 to Pro-11,<br>Ala-27 to Leu-36,<br>Pro-38 to Trp-43. | S0052: 2               |  |
| HNGHG71 | 576218 | 4393 | 1 - 183   | 14145 | Gly-1 to Gly-9,<br>Tyr-14 to Ser-20.                       | S0052: 2               |  |
| HNGHJ26 | 924570 | 4394 | 1 - 384   | 14146 | Gly-1 to Lys-6,<br>Leu-10 to Pro-20.                       | S0052: 2               |  |
| HNGHK13 | 577354 | 4395 | 130 - 348 | 14147 | Lys-1 to Glu-35.   | S0052: 2 and S0428: 1. |  |
| HNGHK42 | 582685 | 4396 | 26 - 211  | 14148 |  | S0052: 2               |  |
| HNGHK44 | 576208 | 4397 | 39 - 164  | 14149 |  | S0052: 2               |  |
| HNGHK46 | 576205 | 4398 | 39 - 173  | 14150 | Gln-26 to Arg-34,<br>Glu-40 to Arg-45.                     | S0052: 2               |  |
| HNGHK48 | 576206 | 4399 | 182 - 319 | 14151 |  | S0052: 2               |  |
| HNGHK50 | 576195 | 4400 | 230 - 376 | 14152 | Asp-1 to Lys-13.   | S0052: 2               |  |
| HNGHK53 | 576191 | 4401 | 3 - 143   | 14153 | His-1 to Leu-6,<br>Gln-23 to Thr-42.                       | S0052: 2               |  |

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| HNGHK68 | 576207 | 4402 | 2 - 205   | 14154 | Ala-1 to Asn-20.   | S0052: 3  |  |  |
| HNGHK77 | 772277 | 4403 | 144 - 494 | 14155 | Lys-11 to Thr-23,<br>Gln-40 to Ile-47.   | S0052: 1 and S0428: 1.                                  |  |  |
| HNGHL10 | 964814 | 4404 | 3 - 242   | 14156 | Gln-45 to Leu-76.  | S0052: 2  |  |  |
| HNGHL20 | 973969 | 4405 | 108 - 410 | 14157 | Arg-2 to Gly-20,<br>Pro-23 to Pro-33,<br>Trp-41 to Gly-48,<br>Cys-74 to Ser-79,<br>Asn-84 to Gly-89. | S0052: 2  |  |  |
| HNGHL22 | 576326 | 4406 | 160 - 246 | 14158 | Lys-17 to Arg-24.  | S0052: 3, L0752: 2, S0114:<br>1, L0662: 1 and L0547: 1. |  |  |
| HNGHL51 | 576223 | 4407 | 232 - 2   | 14159 |  | S0052: 2  |  |  |
| HNGHL52 | 576226 | 4408 | 38 - 358  | 14160 |  | S0052: 2  |  |  |
| HNGHL65 | 576320 | 4409 | 2 - 187   | 14161 |  | S0052: 2  |  |  |
| HNGHL76 | 506269 | 4410 | 1 - 159   | 14162 | Pro-38 to Leu-48.  | S0052: 3  |  |  |
| HNGHL77 | 772283 | 4411 | 163 - 306 | 14163 |  | S0052: 2  |  |  |
| HNGHM33 | 576741 | 4412 | 67 - 315  | 14164 | Ser-1 to Asp-10,<br>Asn-29 to Ser-34,<br>Gln-60 to Lys-77.   | S0052: 2  |  |  |
| HNGHM36 | 576325 | 4413 | 2 - 244   | 14165 | Pro-14 to Arg-20.  | S0052: 2  |  |  |
| HNGHM51 | 713805 | 4414 | 3 - 281   | 14166 | Thr-47 to Gly-56,<br>Thr-71 to Ser-77,<br>Arg-85 to Arg-90.  | S0052: 2  |  |  |
| HNGHN22 | 421742 | 4415 | 2 - 226   | 14167 | Ala-69 to Ser-75.  | S0052: 2  |  |  |
| HNGHN40 | 576165 | 4416 | 70 - 255  | 14168 | Arg-1 to Gln-21.   | S0052: 2  |  |  |
| HNGHN42 | 576111 | 4417 | 16 - 249  | 14169 | Asp-19 to Leu-30.  | S0052: 2  |  |  |
| HNGHN52 | 576681 | 4418 | 61 - 354  | 14170 |  | S0052: 2  |  |  |
| HNGHN56 | 733881 | 4419 | 198 - 428 | 14171 | Thr-31 to Phe-43.  | S0052: 2  |  |  |
| HNGHN70 | 576108 | 4420 | 91 - 297  | 14172 |  | S0052: 2  |  |  |
| HNGHN75 | 576110 | 4421 | 22 - 237  | 14173 | Met-5 to Gln-19,<br>Gly-21 to Leu-29.  | S0052: 2  |  |  |
| HNGHN76 | 576170 | 4422 | 2 - 232   | 14174 |  | S0052: 2  |  |  |
| HNGHN86 | 785566 | 4423 | 216 - 1   | 14175 |  | S0052: 2  |  |  |
| HNGHN93 | 506259 | 4424 | 110 - 283 | 14176 | Pro-24 to Ser-29,<br>Asn-32 to Ser-47,<br>His-53 to Pro-58.  | S0052: 3  |  |  |

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| HNGHN94 | 970856 | 4425 | 1 - 150   | 14177 | Pro-26 to His-33,<br>Pro-35 to Gly-48.   | S0052: 2               |          |                           |
| HNGHN95 | 576127 | 4426 | 175 - 438 | 14178 | Ser-69 to Gly-75.  | S0052: 2               |          |                           |
| HNGHO02 | 920373 | 4427 | 40 - 246  | 14179 |  | S0052: 2               |          |                           |
| HNGHO10 | 964804 | 4428 | 118 - 318 | 14180 | Pro-22 to Pro-28.  | S0052: 2               |          |                           |
| HNGHO15 | 576168 | 4429 | 1 - 192   | 14181 | Gln-41 to Thr-55.  | S0052: 3               |          |                           |
| HNGHO26 | 420281 | 4430 | 74 - 241  | 14182 |  | S0052: 2               |          |                           |
| HNGHO28 | 576173 | 4431 | 79 - 375  | 14183 | Arg-4 to Lys-11.   | S0052: 3               |          |                           |
| HNGHO32 | 575735 | 4432 | 148 - 333 | 14184 |  | S0052: 2               |          |                           |
| HNGHO36 | 576142 | 4433 | 26 - 328  | 14185 | Lys-19 to Thr-27,<br>Pro-79 to Ser-86.   | S0052: 4               |          |                           |
| HNGHO62 | 840278 | 4434 | 46 - 324  | 14186 | Ser-19 to Met-25.  | S0052: 2               |          |                           |
| HNGHO66 | 576174 | 4435 | 125 - 349 | 14187 | Ser-8 to Trp-14.   | S0052: 2               |          |                           |
| HNGHP28 | 576178 | 4436 | 93 - 245  | 14188 | Pro-27 to Lys-32,<br>Arg-43 to Ile-50.   | S0052: 2               |          |                           |
| HNGHP66 | 576136 | 4437 | 20 - 139  | 14189 |  | S0052: 2               |          |                           |
| HNGHP74 | 577357 | 4438 | 3 - 179   | 14190 |  | S0052: 2               |          |                           |
| HNGHP91 | 576053 | 4439 | 112 - 237 | 14191 |  | S0052: 2               |          |                           |
| HNGHP95 | 577335 | 4440 | 262 - 426 | 14192 | Asp-22 to Thr-27.  | S0052: 2               |          |                           |
| HNGHQ27 | 683507 | 4441 | 156 - 272 | 14193 |  | S0212: 1 and S0052: 1. |          |                           |
| HNGHQ43 | 576262 | 4442 | 51 - 188  | 14194 | Pro-21 to Leu-28.  | S0052: 2               |          |                           |
| HNGHQ55 | 576144 | 4443 | 1 - 180   | 14195 | Glu-18 to Arg-28.  | S0052: 3               |          |                           |
| HNGHQ72 | 576105 | 4444 | 1 - 276   | 14196 | Leu-16 to Gly-23.  | S0052: 3               | 22q11.21 | 123620, 151410,<br>600850 |
| HNGHQ76 | 770126 | 4445 | 18 - 140  | 14197 | Asn-14 to Lys-22.  | S0052: 3               |          |                           |
| HNGHQ96 | 723008 | 4446 | 1 - 273   | 14198 | Lys-59 to Arg-64.  | S0052: 2               |          |                           |
| HNGHR04 | 576196 | 4447 | 210 - 434 | 14199 | Ser-31 to Pro-36,<br>Arg-44 to Arg-55.   | S0052: 3               |          |                           |
| HNGHR79 | 576199 | 4448 | 152 - 364 | 14200 |  | S0052: 2               |          |                           |
| HNGHR83 | 576210 | 4449 | 154 - 438 | 14201 | His-1 to Cys-9,<br>Gln-34 to Lys-46,<br>Val-50 to Lys-62,<br>Phe-64 to Lys-70. | S0052: 3               |          |                           |
| HNGHT06 | 935706 | 4450 | 3 - 254   | 14202 |  | S0052: 2               |          |                           |
| HNGHT92 | 576149 | 4451 | 95 - 247  | 14203 | Arg-18 to Gly-49.  | S0052: 2               |          |                           |

|         |        |      |           |       |  |                        |  |
|---------|--------|------|-----------|-------|--|------------------------|--|
| HNGHY07 | 953531 | 4452 | 8 - 211   | 14204 | Ile-9 to His-25.   | S0052: 2               |  |
| HNGHY31 | 577363 | 4453 | 304 - 438 | 14205 | Ser-32 to Phe-37.  | S0052: 3               |  |
| HNGHY54 | 730769 | 4454 | 180 - 275 | 14206 | Pro-7 to Asn-12.   | H0318: 1 and S0052: 1. |  |
| HNGHY78 | 576139 | 4455 | 18 - 185  | 14207 |  | S0052: 3               |  |
| HNGHZ17 | 860532 | 4456 | 30 - 371  | 14208 | Glu-17 to Ser-24.  | S0052: 2 and H0656: 1. |  |
| HNGHZ48 | 576181 | 4457 | 3 - 149   | 14209 |  | S0052: 2               |  |
| HNGHZ51 | 716649 | 4458 | 1 - 147   | 14210 | His-10 to Glu-16,<br>Phe-18 to Asp-23.   | S0052: 2               |  |
| HNGIA19 | 576269 | 4459 | 117 - 323 | 14211 |  | S0052: 2               |  |
| HNGIA40 | 576155 | 4460 | 56 - 268  | 14212 | Lys-39 to Pro-45.  | S0052: 2               |  |
| HNGIA66 | 678887 | 4461 | 89 - 265  | 14213 | Trp-5 to Gly-18,<br>Ser-29 to Ser-42.  | S0052: 3 and S0428: 1. |  |
| HNGIC34 | 934280 | 4462 | 138 - 242 | 14214 | Asn-23 to Lys-34.  | S0052: 1 and S0428: 1. |  |
| HNGIC67 | 576177 | 4463 | 1 - 309   | 14215 | Pro-28 to Ser-36.  | S0052: 3               |  |
| HNGID03 | 921946 | 4464 | 60 - 182  | 14216 |  | S0052: 2 and S0053: 1. |  |
| HNGID11 | 967226 | 4465 | 127 - 351 | 14217 |  | S0052: 2               |  |
| HNGID15 | 660299 | 4466 | 1 - 444   | 14218 | Pro-7 to Ser-12,<br>Phe-90 to Glu-96.  | S0052: 1 and S0053: 1. |  |
| HNGID16 | 576114 | 4467 | 112 - 264 | 14219 | Val-1 to Trp-11.   | S0052: 2               |  |
| HNGID33 | 868069 | 4468 | 123 - 1   | 14220 |  | S0052: 2               |  |
| HNGID67 | 751668 | 4469 | 88 - 267  | 14221 |  | S0052: 1 and S0053: 1. |  |
| HNGID78 | 576117 | 4470 | 34 - 399  | 14222 | Leu-17 to Leu-24,<br>Tyr-26 to Trp-39,<br>Arg-47 to His-58,<br>Ala-69 to Ile-76. | S0052: 2               |  |
| HNGID80 | 576120 | 4471 | 66 - 200  | 14223 | Lys-33 to Gly-40.  | S0052: 2               |  |
| HNGID89 | 577358 | 4472 | 54 - 203  | 14224 | Pro-13 to Gln-22.  | S0052: 2               |  |
| HNGID91 | 577189 | 4473 | 221 - 361 | 14225 | Arg-40 to Pro-46.  | S0052: 1 and S0053: 1. |  |
| HNGIH02 | 920362 | 4474 | 2 - 97    | 14226 |  | S0052: 2               |  |
| HNGIH56 | 576122 | 4475 | 2 - 226   | 14227 | Ala-1 to Ser-7.  | S0052: 2               |  |
| HNGIH94 | 576123 | 4476 | 3 - 152   | 14228 | Thr-18 to Leu-23,<br>Asp-42 to Cys-48.   | S0052: 2               |  |
| HNGIH16 | 576154 | 4477 | 1 - 78    | 14229 |  | S0052: 2               |  |
| HNGIH47 | 576156 | 4478 | 1 - 117   | 14230 | Arg-21 to Pro-28,<br>Lys-31 to Trp-37.   | S0052: 2               |  |



|         |        |      |           |       |   |                        |  |
|---------|--------|------|-----------|-------|---|------------------------|--|
| HNGII50 | 915340 | 4479 | 3 - 158   | 14231 | Asn-6 to Thr-16.  | S0052: 2               |  |
| HNGII74 | 576158 | 4480 | 149 - 367 | 14232 | Trp-22 to Gly-28,<br>Arg-46 to Ser-52.                      | S0052: 2               |  |
| HNGII76 | 576153 | 4481 | 3 - 113   | 14233 | Ser-30 to Gln-37.   | S0052: 2               |  |
| HNGII85 | 576102 | 4482 | 2 - 142   | 14234 | Ala-1 to Ala-13,<br>Val-17 to Ile-27.                       | S0052: 2 and S0053: 1. |  |
| HNGII01 | 916748 | 4483 | 67 - 168  | 14235 | Ser-19 to Lys-26.   | S0052: 1 and S0428: 1. |  |
| HNGII05 | 925597 | 4484 | 59 - 262  | 14236 |   | S0052: 2               |  |
| HNGII11 | 964809 | 4485 | 73 - 258  | 14237 | Gln-16 to Asn-22.   | S0052: 3               |  |
| HNGII59 | 860526 | 4486 | 2 - 223   | 14238 | Pro-5 to Ser-11,<br>Lys-17 to Tyr-23.                       | S0052: 3               |  |
| HNGII66 | 576224 | 4487 | 1 - 141   | 14239 | Cys-13 to Ile-18.   | S0052: 2               |  |
| HNGII67 | 506355 | 4488 | 163 - 306 | 14240 |   | S0052: 3               |  |
| HNGII96 | 779901 | 4489 | 122 - 448 | 14241 | Pro-10 to Pro-31.   | S0052: 3               |  |
| HNGIK41 | 712362 | 4490 | 132 - 218 | 14242 |   | S0052: 3               |  |
| HNGIK42 | 713817 | 4491 | 3 - 230   | 14243 | His-1 to Arg-8,<br>Gly-24 to Gly-38,<br>Glu-41 to Trp-47.   | S0052: 2               |  |
| HNGIK77 | 772230 | 4492 | 3 - 149   | 14244 | Ser-13 to Val-27.   | S0052: 2               |  |
| HNGIL27 | 839952 | 4493 | 291 - 434 | 14245 | Lys-1 to Tyr-7,<br>Arg-43 to Gln-48.                        | S0052: 1 and H0422: 1. |  |
| HNGIL43 | 715328 | 4494 | 168 - 332 | 14246 | Leu-6 to Pro-11,<br>Leu-16 to Trp-23,<br>Lys-35 to Leu-42.  | S0052: 2               |  |
| HNGIM04 | 615308 | 4495 | 30 - 215  | 14247 | Pro-41 to His-53.   | H0083: 1 and S0052: 1. |  |
| HNGIM46 | 653221 | 4496 | 135 - 254 | 14248 | Arg-1 to Leu-21.  | S0052: 2               |  |
| HNGIM76 | 770078 | 4497 | 2 - 268   | 14249 |   | S0052: 2               |  |
| HNGIM90 | 788715 | 4498 | 57 - 233  | 14250 | Gln-19 to Ala-34,<br>Ser-41 to Lys-48,<br>Ser-53 to Lys-59. | S0052: 3               |  |
| HNGIM92 | 783495 | 4499 | 55 - 216  | 14251 | Tyr-1 to Lys-8,<br>Phe-11 to Asp-16.                        | S0052: 1 and H0423: 1. |  |
| HNGIN11 | 964991 | 4500 | 219 - 521 | 14252 |   | S0052: 1 and S0428: 1. |  |
| HNGIN18 | 666515 | 4501 | 3 - 254   | 14253 | His-47 to Pro-52,<br>Arg-58 to Gly-67.                      | S0052: 2               |  |

|         |        |      |           |       |   |  |  |
|---------|--------|------|-----------|-------|---|--|--|
| HNGIN28 | 860521 | 4502 | 123 - 290 | 14254 | Gln-20 to Arg-25.   | S0052: 1 and S0216: 1.   |  |
| HNGIO15 | 660320 | 4503 | 159 - 404 | 14255 | Glu-1 to Thr-8,<br>Arg-15 to Asp-26.                        | S0052: 3   |  |
| HNGIO77 | 576857 | 4504 | 253 - 378 | 14256 |   | S0052: 2 and H0341: 1.   |  |
| HNGIP30 | 577338 | 4505 | 3 - 242   | 14257 | Glu-2 to Glu-18,<br>Gly-50 to Ala-55.                       | S0052: 2, L0663: 1, S0053:<br>1 and H0445: 1.  |  |
| HNGIP39 | 840215 | 4506 | 2 - 352   | 14258 | Glu-52 to Ser-60.   | S0052: 1 and S0428: 1.   |  |
| HNGIP42 | 860518 | 4507 | 175 - 366 | 14259 | Ile-42 to Gly-47.   | S0052: 1 and S0428: 1.   |  |
| HNGIP72 | 575752 | 4508 | 46 - 156  | 14260 |   | S0052: 3   |  |
| HNGIQ28 | 860510 | 4509 | 144 - 299 | 14261 |   | S0052: 2   |  |
| HNGIQ43 | 715324 | 4510 | 166 - 417 | 14262 | Gly-15 to Arg-20.   | S0052: 2   |  |
| HNGIQ48 | 720944 | 4511 | 3 - 185   | 14263 | His-1 to Glu-6,<br>Gly-19 to Ser-24,<br>Ile-28 to Pro-40.   | S0052: 2   |  |
| HNGIQ66 | 506352 | 4512 | 1 - 105   | 14264 | Gly-1 to Lys-14.  | S0052: 2   |  |
| HNGIR34 | 719088 | 4513 | 236 - 349 | 14265 |   | S0052: 2   |  |
| HNGIR92 | 524799 | 4514 | 82 - 243  | 14266 | Arg-24 to Tyr-34.   | S0052: 2   |  |
| HNGIS13 | 575753 | 4515 | 93 - 308  | 14267 | His-11 to Ser-22,<br>Leu-35 to Thr-41,<br>Gln-45 to Gln-50. | S0052: 2   |  |
| HNGIS30 | 575758 | 4516 | 59 - 202  | 14268 |   | S0052: 2   |  |
| HNGIT70 | 953890 | 4517 | 1 - 237   | 14269 |   | S0052: 2   |  |
| HNGIU55 | 576804 | 4518 | 1 - 171   | 14270 | Asn-39 to His-45.   | S0052: 1 and S0053: 1.   |  |
| HNGIU78 | 666261 | 4519 | 799 - 578 | 14271 | Leu-9 to Thr-14,<br>Asn-69 to Glu-74.                       | L0803: 6, L0756: 5, L0731:<br>5, L0794: 3, L0755: 3,<br>L0774: 2, L0805: 2, S0052:<br>2, L0746: 2, L0777: 2,<br>L0598: 1, L0646: 1, L0766:<br>1, L0606: 1, L0661: 1,<br>L0367: 1, L0666: 1, H0522:<br>1, L0742: 1, L0748: 1,<br>L0740: 1, L0754: 1, L0745:<br>1, L0749: 1, L0779: 1,<br>L0758: 1 and L0608: 1. |  |
| HNGIV01 | 913687 | 4520 | 116 - 310 | 14272 |   | H0580: 1 and S0052: 1.   |  |
| HNGIV24 | 766775 | 4521 | 1 - 210   | 14273 |   | S0052: 1 and S0216: 1.   |  |

|         |        |      |           |       |  |  |                                    |
|---------|--------|------|-----------|-------|--|--|------------------------------------|
| HNGIV81 | 777970 | 4522 | 190 - 357 | 14274 | Glu-19 to Thr-24,<br>Thr-51 to Lys-56.   | S0052: 1 and S0428: 1.   |                                    |
| HNGIW70 | 883086 | 4523 | 131 - 577 | 14275 | Lys-5 to Asn-10.   | S0052: 2 and S0428: 1.   |                                    |
| HNGIW73 | 764456 | 4524 | 63 - 290  | 14276 | Gly-7 to Gln-12.   | S0052: 1 and S0216: 1.   |                                    |
| HNGIY22 | 674660 | 4525 | 37 - 171  | 14277 |  | S0052: 2   |                                    |
| HNGIY36 | 707323 | 4526 | 162 - 1   | 14278 |  | S0052: 2   |                                    |
| HNGIY56 | 868065 | 4527 | 3 - 149   | 14279 |  | S0052: 2   |                                    |
| HNGIY60 | 740404 | 4528 | 1 - 162   | 14280 | Gly-1 to Lys-11,<br>Gly-13 to Gly-25.  | S0052: 2   | 8p23.1                             |
| HNGIY79 | 775229 | 4529 | 3 - 530   | 14281 | Lys-31 to Gly-37,<br>Pro-56 to Phe-65,<br>Leu-77 to Asp-83,<br>Pro-91 to Lys-97. | AR061: 10, AR089: 5<br>T0042: 1, S0052: 1, H0521:<br>1 and L0439: 1. |                                    |
| HNGIY92 | 792737 | 4530 | 35 - 334  | 14282 | Thr-65 to Trp-80.  | S0052: 1 and S0428: 1.   |                                    |
| HNGIZ36 | 670962 | 4531 | 261 - 356 | 14283 | Ser-27 to Tyr-32.  | S0052: 2 and H0402: 1.   |                                    |
| HNGIZ56 | 733439 | 4532 | 186 - 305 | 14284 |  | S0052: 2   |                                    |
| HNGIZ69 | 757599 | 4533 | 218 - 436 | 14285 | Arg-15 to Asp-24.  | S0052: 2   |                                    |
| HNGIZ82 | 668704 | 4534 | 147 - 371 | 14286 | Met-67 to Lys-72.  | S0052: 3, L0809: 1 and<br>L0789: 1.                                  |                                    |
| HNGJA15 | 787570 | 4535 | 763 - 927 | 14287 |  | S0052: 1 and S0216: 1.   |                                    |
| HNGJA18 | 666512 | 4536 | 157 - 306 | 14288 |  | S0052: 2   |                                    |
| HNGJB34 | 936011 | 4537 | 257 - 436 | 14289 | Arg-13 to Gly-18.  | L0476: 1, S0052: 1 and<br>S0053: 1.                                  |                                    |
| HNGJB52 | 724406 | 4538 | 203 - 445 | 14290 | Pro-2 to Arg-7.  | S0052: 1 and S0053: 1.   |                                    |
| HNGJB68 | 733060 | 4539 | 58 - 285  | 14291 |  | S0052: 2   |                                    |
| HNGJC60 | 723380 | 4540 | 183 - 416 | 14292 | Val-2 to Gly-9,<br>Gly-11 to Gly-24.   | S0052: 2   |                                    |
| HNGJC66 | 786924 | 4541 | 2 - 211   | 14293 | Pro-9 to Leu-16,<br>Ala-54 to Gly-62.  | S0052: 2   |                                    |
| HNGJC76 | 739500 | 4542 | 1 - 132   | 14294 |  | S0052: 2   |                                    |
| HNGJD15 | 660312 | 4543 | 1 - 93    | 14295 |  | S0052: 2   |                                    |
| HNGJD61 | 774154 | 4544 | 375 - 569 | 14296 | His-22 to Leu-27,<br>Pro-43 to Gly-64.   | S0052: 1 and S0428: 1.   |                                    |
| HNGJD71 | 760397 | 4545 | 24 - 371  | 14297 | Ser-4 to Gly-10,<br>Gly-36 to Asp-42.  | S0052: 1 and S0428: 1.   | 108725, 120700,<br>133171, 136836, |

|         |        |      |           |       |  |   |  |  |                                     |  |
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|         |        |      |           |       |  | Leu-81 to Thr-91,<br>Pro-93 to Gly-99,<br>Ser-108 to Ala-114. |  |  |                                     | 145981, 147141,<br>164953, 188070,<br>600957, 601238,<br>601846, 602216,<br>602477 |
| HNGJD76 | 670948 | 4546 | 20 - 259  | 14298 |  |   |  |  | S0052: 2 and S0053: 1.              |  |
| HNGJE16 | 661976 | 4547 | 3 - 212   | 14299 |  |   |  |  | H0341: 1 and S0052: 1.              |  |
| HNGJE33 | 795219 | 4548 | 134 - 286 | 14300 |  |   |  |  | S0052: 1 and S0428: 1.              |  |
| HNGJE40 | 960003 | 4549 | 74 - 304  | 14301 |  | Asn-1 to Gly-7,<br>Pro-21 to Leu-26.                          |  |  | H0265: 1 and S0052: 1.              |  |
| HNGJE56 | 669732 | 4550 | 222 - 374 | 14302 |  |   |  |  | S0052: 2                            |  |
| HNGJF26 | 666504 | 4551 | 2 - 241   | 14303 |  | Leu-38 to Ala-43.   |  |  | S0052: 2                            |  |
| HNGJF65 | 698487 | 4552 | 401 - 589 | 14304 |  |   |  |  | S0052: 2, H0306: 1 and<br>L0790: 1. |  |
| HNGJF73 | 683440 | 4553 | 217 - 408 | 14305 |  |   |  |  | S0052: 2                            |  |
| HNGJF79 | 775221 | 4554 | 1 - 156   | 14306 |  |   |  |  | H0271: 1 and S0052: 1.              |  |
| HNGJG15 | 660308 | 4555 | 121 - 354 | 14307 |  | Pro-44 to Leu-55,<br>Arg-60 to Ser-66,<br>Arg-69 to Trp-78.   |  |  | S0052: 2                            |  |
| HNGJG37 | 708703 | 4556 | 6 - 146   | 14308 |  | Ser-1 to His-6.   |  |  | S0052: 2                            |  |
| HNGJG72 | 970797 | 4557 | 53 - 163  | 14309 |  | Thr-16 to Tyr-24,<br>Glu-29 to Gln-34.                        |  |  | S0052: 1 and H0445: 1.              |  |
| HNGJG89 | 778294 | 4558 | 85 - 252  | 14310 |  |   |  |  | S0052: 2                            |  |
| HNGJH09 | 415566 | 4559 | 39 - 179  | 14311 |  |   |  |  | S0052: 1 and S0216: 1.              |  |
|         | 860378 | 9587 | 118 - 315 | 19339 |  | Glu-52 to Lys-57.   |  |  |                                     |  |
| HNGJH11 | 860350 | 4560 | 1 - 222   | 14312 |  | Gly-1 to Val-13,<br>Ser-34 to Leu-39.                         |  |  | S0052: 3                            |  |
| HNGJH35 | 952237 | 4561 | 3 - 167   | 14313 |  | Ser-14 to Glu-20.   |  |  | S0052: 1 and S0428: 1.              |  |
| HNGJH50 | 666843 | 4562 | 134 - 307 | 14314 |  |   |  |  | S0052: 3                            |  |
| HNGJH96 | 953648 | 4563 | 1 - 177   | 14315 |  |   |  |  | S0052: 2                            |  |
| HNGJI29 | 690667 | 4564 | 197 - 385 | 14316 |  | Trp-1 to Asn-9.   |  |  | S0052: 2                            |  |
| HNGJI35 | 707328 | 4565 | 2 - 223   | 14317 |  | Glu-16 to Arg-29,<br>Ser-41 to Gly-48.                        |  |  | S0052: 4                            |  |
| HNGJI42 | 465160 | 4566 | 158 - 418 | 14318 |  |   |  |  | S0052: 2                            |  |
| HNGJI54 | 465159 | 4567 | 1 - 381   | 14319 |  | Glu-43 to Ala-49,   |  |  | S0052: 3                            |  |

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|---------|--------|------|-----------|-------|--|--|---|---|----------|--|
|         |        |      |           |       |  |  | Cys-57 to Ser-62,<br>Arg-79 to Thr-86.                    |   |          |  |
| HNGJ71  | 760393 | 4568 | 48 - 308  | 14320 |  |  | Pro-25 to Arg-32,<br>Arg-38 to Gly-49.                    |   | S0052: 2 |  |
| HNGJ77  | 772215 | 4569 | 94 - 357  | 14321 |  |  | Ala-12 to Asn-17,<br>Thr-23 to Gln-33.                    |   | S0052: 2 |  |
| HNGJ83  | 781213 | 4570 | 221 - 376 | 14322 |  |  | Arg-7 to Pro-21,<br>Pro-40 to Gln-47.                     |   | S0052: 3 |  |
| HNGJ22  | 597096 | 4571 | 1 - 285   | 14323 |  |  | Thr-2 to Cys-13,<br>Asp-24 to Gln-32.                     | S0052: 1, S0428: 1 and<br>L0599: 1.                     |          |  |
| HNGJ51  | 725702 | 4572 | 124 - 53  | 14324 |  |  |   | S0052: 2  |          |  |
| HNGJK04 | 615288 | 4573 | 76 - 222  | 14325 |  |  | Ala-2 to Thr-18,<br>Arg-23 to Gln-29.                     | S0052: 2  |          |  |
| HNGJK06 | 935548 | 4574 | 2 - 163   | 14326 |  |  |   | S0052: 2  |          |  |
| HNGJK12 | 970686 | 4575 | 132 - 227 | 14327 |  |  | Glu-1 to Ser-9.   | S0002: 1 and S0052: 1.                                  |          |  |
| HNGJK23 | 707327 | 4576 | 3 - 83    | 14328 |  |  |   | S0052: 2  |          |  |
| HNGJK29 | 663954 | 4577 | 1 - 174   | 14329 |  |  | Cys-36 to Ser-41,<br>Thr-48 to Arg-58.                    | S0052: 2  |          |  |
| HNGJK42 | 713810 | 4578 | 14 - 223  | 14330 |  |  | Lys-3 to Val-9,<br>Cys-24 to Phe-30,<br>Pro-46 to Gln-57. | S0052: 2  |          |  |
| HNGJK50 | 860196 | 4579 | 69 - 398  | 14331 |  |  | His-21 to Arg-26,<br>Met-38 to Ala-47.                    | S0052: 1 and S0428: 1.                                  |          |  |
| HNGJK54 | 730713 | 4580 | 238 - 101 | 14332 |  |  | Gln-1 to Ile-9.   | S0052: 3  |          |  |
| HNGJK58 | 736080 | 4581 | 122 - 355 | 14333 |  |  | His-16 to Lys-48.   | S0052: 2  |          |  |
| HNGJK71 | 739323 | 4582 | 87 - 290  | 14334 |  |  |   | S0052: 2  |          |  |
| HNGJK77 | 732737 | 4583 | 191 - 319 | 14335 |  |  | His-1 to Trp-12,<br>Ser-29 to Ile-34.                     | S0052: 3 and H0444: 1.                                  |          |  |
| HNGJK89 | 772218 | 4584 | 2 - 265   | 14336 |  |  | Arg-2 to Gly-12.  | S0052: 3  |          |  |
| HNGJL16 | 661977 | 4585 | 177 - 359 | 14337 |  |  | Ser-1 to Ser-8,<br>Asn-44 to Ala-54.                      | S0052: 2  |          |  |
| HNGJL26 | 681819 | 4586 | 1 - 369   | 14338 |  |  | Gly-1 to Ser-7,<br>Pro-12 to Glu-20.                      | S0052: 2  |          |  |
| HNGJL27 | 725295 | 4587 | 1 - 264   | 14339 |  |  |   | L0639: 1, L0659: 1, L0517:<br>1, S0052: 1 and S0216: 1. |          |  |
| HNGJL60 | 462981 | 4588 | 164 - 439 | 14340 |  |  | Ser-47 to Asp-52.   | S0052: 2  |          |  |

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|---------|--------|------|-----------|-------|---|--|---------------|--|
| HNGJL73 | 783518 | 4589 | 69 - 311  | 14341 | Asn-1 to Leu-8.                                     | S0052: 2   |               |  |
| HNGJL76 | 793537 | 4590 | 69 - 608  | 14342 | Asp-36 to Arg-44.                                   | S0052: 1, S0053: 1 and L0361: 1.   | 19q13.3-q13.4 | 113900, 126340, 126391, 130410, 134790, 138570, 160900, 173850, 191044, 258501, 600040, 600138, 602225, 602225 |
| HNGJM20 | 964800 | 4591 | 2 - 157   | 14343 |   | S0052: 2   |               |  |
| HNGJM35 | 707324 | 4592 | 3 - 116   | 14344 | Arg-18 to Leu-25.                                   | S0052: 2 and L0361: 1.   |               |  |
| HNGJM82 | 967328 | 4593 | 432 - 19  | 14345 |   | S0134: 1, L0769: 1, L0794: 1, S0052: 1, S0428: 1, L0753: 1, L0592: 1 and L0599: 1. |               |  |
| HNGJO10 | 964678 | 4594 | 140 - 301 | 14346 | Gly-1 to Glu-6.                                     | S0052: 2   |               |  |
| HNGJO35 | 707329 | 4595 | 2 - 403   | 14347 | Arg-39 to Gly-49, Pro-51 to Thr-56.                 | S0052: 2   |               |  |
| HNGJO45 | 717069 | 4596 | 322 - 408 | 14348 |   | S0052: 1 and S0053: 1.   |               |  |
| HNGJO73 | 668997 | 4597 | 208 - 360 | 14349 | Ser-28 to Ser-33, Gly-39 to Thr-46.                 | H0318: 1 and S0052: 1.   |               |  |
| HNGJP03 | 860363 | 4598 | 95 - 376  | 14350 | Cys-13 to Arg-22, Pro-29 to Lys-41.                 | S0052: 2   |               |  |
| HNGJP10 | 964668 | 4599 | 72 - 392  | 14351 | Gly-12 to Lys-22, Asn-29 to Ser-34.                 | S0052: 1 and S0428: 1.   |               |  |
| HNGJP80 | 766278 | 4600 | 118 - 429 | 14352 | Pro-10 to Gln-15.                                   | H0305: 1, S0052: 1 and S0428: 1.   |               |  |
| HNGJQ14 | 881542 | 4601 | 2 - 370   | 14353 |   | S0052: 1 and S0053: 1.   |               |  |
| HNGJQ23 | 789764 | 4602 | 192 - 314 | 14354 | Gly-12 to Pro-18.                                   | S0052: 1 and S0216: 1.   |               |  |
| HNGJQ25 | 924652 | 4603 | 3 - 170   | 14355 |   | S0052: 2   |               |  |
| HNGJQ35 | 707326 | 4604 | 146 - 388 | 14356 |   | S0052: 2   |               |  |
| HNGJR01 | 916555 | 4605 | 203 - 373 | 14357 |   | H0090: 1 and S0052: 1.   |               |  |
| HNGJS24 | 677235 | 4606 | 178 - 333 | 14358 |   | S0052: 2   |               |  |
| HNGJS45 | 720746 | 4607 | 63 - 1    | 14359 |   | S0052: 2   |               |  |
| HNGJS53 | 728258 | 4608 | 256 - 444 | 14360 |   | S0052: 2   |               |  |
| HNGJS64 | 746606 | 4609 | 16 - 357  | 14361 | Ser-2 to Arg-8, Gly-14 to Trp-24, Thr-28 to Gln-33, | S0052: 2   |               |  |

|         |        |      |           |       |  |  |  |   |                                    |
|---------|--------|------|-----------|-------|--|--|--|---|------------------------------------|
|         |        |      |           |       |  | Gly-40 to Phe-58,<br>Gly-80 to Arg-94.                     |  |   |                                    |
| HNGJS91 | 920755 | 4610 | 3 - 221   | 14362 |  | His-1 to Asp-6,<br>Ile-67 to Trp-72.                       |  | S0052: 2  |                                    |
| HNGJT36 | 888329 | 4611 | 122 - 352 | 14363 |  | Asn-5 to Ser-12.   |  | S0052: 2  |                                    |
| HNGJT72 | 775502 | 4612 | 1 - 288   | 14364 |  | Thr-28 to Leu-33,<br>Trp-61 to Pro-67.                     |  | S0052: 1 and S0428: 1.  |                                    |
| HNGJT93 | 792338 | 4613 | 158 - 343 | 14365 |  |  |  | S0052: 2  |                                    |
| HNGJT95 | 953418 | 4614 | 120 - 254 | 14366 |  | Thr-8 to Asp-15.   |  | S0052: 2  |                                    |
| HNGJU36 | 708122 | 4615 | 651 - 457 | 14367 |  |  |  | S0052: 3 and H0521: 1.  |                                    |
| HNGJU50 | 724416 | 4616 | 272 - 412 | 14368 |  |  |  | S0052: 2  |                                    |
| HNGJU51 | 725703 | 4617 | 2 - 109   | 14369 |  |  |  | S0052: 2  |                                    |
| HNGJU78 | 860347 | 4618 | 166 - 375 | 14370 |  | Glu-21 to Asn-27.  |  | S0052: 2  |                                    |
| HNGJV04 | 615283 | 4619 | 18 - 224  | 14371 |  | Gln-28 to Gly-42.  |  | S0052: 2  |                                    |
| HNGJV10 | 964672 | 4620 | 205 - 378 | 14372 |  | Ser-5 to Val-10,<br>Ala-27 to Gly-33.                      |  | S0052: 2  |                                    |
| HNGJV91 | 790213 | 4621 | 144 - 1   | 14373 |  |  |  | S0052: 1 and S0216: 1.  |                                    |
| HNGKA62 | 876593 | 4622 | 97 - 345  | 14374 |  | Arg-1 to Ser-6.  |  | H0556: 1, S0428: 1, L0589:<br>1 and H0423: 1.                       |                                    |
| HNGKB11 | 966119 | 4623 | 3 - 311   | 14375 |  | Gly-2 to Pro-17,<br>Pro-31 to Gly-48.                      |  | S0428: 2  |                                    |
| HNGKB25 | 944424 | 4624 | 89 - 445  | 14376 |  | Trp-1 to Gln-8,<br>Thr-16 to Trp-22,<br>Ser-67 to Ser-75.  |  | AR061: 4, AR089: 4<br>S0114: 1, H0376: 1, S0428:<br>1 and L0748: 1. |                                    |
| HNGKB78 | 971110 | 4625 | 98 - 322  | 14377 |  | Lys-13 to Thr-18,<br>Ser-24 to Ser-29.                     |  | S0428: 1, S0053: 1 and<br>S0216: 1.                                 |                                    |
| HNGKB93 | 791760 | 4626 | 63 - 305  | 14378 |  | Arg-6 to Gly-21,<br>Thr-34 to Pro-39,<br>Pro-43 to Pro-50. |  | H0087: 1 and S0428: 1.  |                                    |
| HNGKD55 | 860343 | 4627 | 359 - 547 | 14379 |  | Met-40 to Ser-45.  |  | S0428: 2  |                                    |
| HNGKD94 | 793414 | 4628 | 164 - 364 | 14380 |  |  |  | H0271: 1, S0052: 1 and<br>S0428: 1.                                 |                                    |
| HNGKE05 | 860320 | 4629 | 297 - 497 | 14381 |  | Arg-6 to Gly-12,<br>Arg-36 to Arg-47.                      |  | S0428: 2  |                                    |
| HNGKE07 | 952221 | 4630 | 2 - 361   | 14382 |  | Lys-56 to Ser-62.  |  | S0428: 2, S0053: 1 and<br>S0216: 1.                                 | 113900, 126340,<br>126391, 130410, |

|         |        |      |           |       |   |                        |  |
|---------|--------|------|-----------|-------|---|------------------------|--|
| HNGKE52 | 812714 | 4631 | 304 - 579 | 14383 | Pro-32 to Gln-38,<br>Pro-56 to Leu-66.  | S0428: 2               | 134790, 138570,<br>160900, 173850,<br>191044, 258501,<br>600040, 600138,<br>602225, 602225   |
| HNGKE73 | 860312 | 4632 | 251 - 631 | 14384 |   | S0428: 2 and S0052: 1. |  |
| HNGKE89 | 786257 | 4633 | 268 - 420 | 14385 |   | S0428: 2               |  |
| HNGKE91 | 789685 | 4634 | 137 - 274 | 14386 | Glu-29 to Phe-35.   | S0428: 2 and S0052: 1. |  |
| HNGKE93 | 791623 | 4635 | 3 - 311   | 14387 | Gly-1 to Pro-7.   | H0255: 1 and S0428: 1. |  |
| HNGKF01 | 915247 | 4636 | 59 - 352  | 14388 | Pro-33 to Pro-49,<br>Pro-56 to Pro-63.  | S0428: 2               |  |
| HNGKF11 | 965047 | 4637 | 6 - 185   | 14389 |   | S0428: 2 and S0052: 1. |  |
| HNGKF83 | 780453 | 4638 | 1 - 243   | 14390 | His-5 to Gly-15,<br>Phe-22 to Arg-28,<br>Ser-45 to Gly-54,<br>Ser-64 to Lys-71.   | S0428: 2               |  |
| HNGKG43 | 958487 | 4639 | 287 - 640 | 14391 | Lys-41 to Asn-46,<br>Lys-55 to Thr-61,<br>Ser-77 to Thr-84.                       | S0428: 1 and S0216: 1. |  |
| HNGKG61 | 860317 | 4640 | 57 - 233  | 14392 | Thr-6 to Gly-17.  | S0428: 2 and S0052: 1. |  |
| HNGKH04 | 926987 | 4641 | 318 - 1   | 14393 |   | S0052: 1 and S0428: 1. |  |
| HNGKI30 | 860205 | 4642 | 20 - 328  | 14394 | Phe-33 to Gly-41,<br>Glu-58 to Lys-63,<br>Arg-78 to Ser-83,<br>Pro-92 to Leu-101. | S0428: 2<br>5q32-q33   | 109690, 109690,<br>131400, 138491,<br>138491, 138491,<br>154500, 180071,<br>181460, 222600,<br>222600, 222600,<br>234000, 272750,<br>600807, 601411,<br>601596, 602089 |
| HNGKI36 | 784854 | 4643 | 3 - 206   | 14395 | Ala-24 to Ser-30,<br>Gln-61 to Gln-68.  | S0428: 2               |  |
| HNGKI90 | 787378 | 4644 | 2 - 169   | 14396 |   | S0428: 2               |  |
| HNGKI93 | 791671 | 4645 | 42 - 515  | 14397 | Leu-26 to Arg-32.   | H0255: 1 and S0428: 1. |  |



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|---------|--------|------|-----------|-------|---|--|--|--|
| HNGKJ01 | 915231 | 4646 | 55 - 444  | 14398 | Ile-1 to Thr-26,<br>Arg-36 to Ala-42,<br>Glu-61 to Lys-66,<br>Arg-76 to Arg-81,<br>Val-104 to Ile-117,<br>Gln-119 to Gly-127. | S0428: 1 and S0053: 1.                       |  |  |
| HNGKJ38 | 806053 | 4647 | 57 - 356  | 14399 | Glu-24 to Pro-31.   | S0428: 2, H0264: 1, S0052: 1 and S0053: 1.   |  |  |
|         | 974222 | 9588 | 426 - 184 | 19340 | Ser-26 to His-31,<br>Ala-65 to Glu-71.  |  |  |  |
| HNGKJ51 | 883072 | 4648 | 1 - 315   | 14400 | Asp-1 to Arg-7.   | S0428: 2                                     |  |  |
| HNGKK35 | 806051 | 4649 | 49 - 285  | 14401 | Pro-72 to Arg-79.   | S0428: 2                                     |  |  |
| HNGKO11 | 966093 | 4650 | 123 - 1   | 14402 |   | S0428: 2                                     |  |  |
| HNGKP29 | 860305 | 4651 | 3 - 203   | 14403 | Gln-5 to Pro-10.  | S0052: 1 and S0428: 1.                       |  |  |
| HNGKS06 | 974356 | 4652 | 148 - 372 | 14404 |   | H0069: 1 and S0428: 1.                       |  |  |
| HNGKT08 | 958311 | 4653 | 175 - 369 | 14405 |   | S0052: 1 and S0428: 1.                       |  |  |
| HNGKT69 | 860302 | 4654 | 159 - 374 | 14406 |   | S0052: 1 and S0428: 1.                       |  |  |
| HNGKU04 | 926948 | 4655 | 149 - 289 | 14407 | Gln-1 to Lys-13.  | S0052: 1 and S0428: 1.                       |  |  |
| HNGKV01 | 915218 | 4656 | 65 - 280  | 14408 | Phe-14 to Gln-22,<br>Gly-37 to Cys-43,<br>Met-47 to Lys-53,<br>Glu-56 to Ser-62.  | S0052: 1 and S0428: 1.                       |  |  |
| HNGLA54 | 860206 | 4657 | 1 - 153   | 14409 | Pro-23 to Cys-34.   | S0428: 2                                     |  |  |
| HNGLC01 | 915288 | 4658 | 346 - 579 | 14410 |   | S0052: 1 and S0428: 1.                       |  |  |
| HNGLC46 | 775300 | 4659 | 63 - 257  | 14411 | Pro-2 to Gly-20.  | S0052: 1 and S0428: 1.                       |  |  |
| HNGLD34 | 830026 | 4660 | 97 - 210  | 14412 | Pro-14 to Gly-23.   | S0428: 2 and L0750: 1.                       |  |  |
| HNGLE25 | 860260 | 4661 | 2 - 313   | 14413 | Thr-1 to Trp-6,<br>Pro-80 to Ser-88.  | S0428: 2                                     |  |  |
| HNGLE52 | 835972 | 4662 | 181 - 396 | 14414 |   | S0052: 1 and S0428: 1.                       |  |  |
| HNGLE74 | 860263 | 4663 | 163 - 468 | 14415 | Pro-1 to Asn-6.   | S0052: 1 and S0428: 1.                       |  |  |
| HNGLF03 | 922969 | 4664 | 320 - 472 | 14416 | Glu-1 to Ser-13,<br>Glu-24 to Gly-30.   | H0271: 1, S0052: 1 and S0428: 1.             |  |  |
| HNGLF08 | 958312 | 4665 | 199 - 465 | 14417 | Ser-11 to Trp-21,<br>Arg-74 to Glu-80.  | S0428: 2, S0052: 1 and L0731: 1.             |  |  |
| HNGLG06 | 839088 | 4666 | 234 - 689 | 14418 | Asp-73 to Gly-79,<br>Val-107 to Ile-114.  | AR061: 7, AR089: 2<br>H0318: 1, S0144: 1 and |  |  |

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| HNGLH72 | 785570 | 4667 | 280 - 453 | 14419 | Met-120 to Tyr-126.  | S0428: 1.                                      |  |
| HNGLH82 | 954140 | 4668 | 105 - 404 | 14420 | Ser-9 to Ser-25.   | S0052: 1 and S0428: 1.                         |  |
| HNGLJ04 | 954943 | 4669 | 332 - 496 | 14421 |  | S0052: 3 and S0428: 1.                         |  |
| HNGLJ20 | 806045 | 4670 | 78 - 323  | 14422 |  | S0052: 1 and S0428: 1.                         |  |
| HNGLK13 | 785685 | 4671 | 23 - 238  | 14423 |  | S0428: 2                                       |  |
| HNGLK65 | 795280 | 4672 | 301 - 522 | 14424 |  | S0052: 1 and S0428: 1.                         |  |
| HNGLK90 | 795225 | 4673 | 234 - 491 | 14425 |  | S0428: 2                                       |  |
| HNGLL03 | 923028 | 4674 | 220 - 420 | 14426 | Tyr-1 to Cys-9.  | S0428: 2                                       |  |
| HNGLL11 | 966105 | 4675 | 35 - 190  | 14427 |  | S0052: 1 and S0428: 1.                         |  |
| HNGLL24 | 859922 | 4676 | 330 - 584 | 14428 |  | S0052: 1 and S0428: 1.                         |  |
| HNGLL31 | 789193 | 4677 | 139 - 288 | 14429 | Lys-1 to Gly-10,<br>Met-12 to Gln-18,<br>Arg-48 to Pro-61.   | S0428: 1 and S0216: 1.                         |  |
| HNGLL41 | 845274 | 4678 | 734 - 288 | 14430 | Glu-29 to Trp-34.  | H0179: 1 and S0428: 1.                         |  |
|         | 873128 | 9589 | 157 - 456 | 19341 | Gly-1 to Gly-8.  | AR051: 29, AR050: 25,<br>AR054: 17<br>S0428: 2 |  |
| HNGLL67 | 860253 | 4679 | 46 - 336  | 14431 | Pro-21 to Tyr-32.  |  |  |
| HNGLL91 | 789743 | 4680 | 140 - 421 | 14432 |  | S0052: 1 and S0428: 1.                         |  |
| HNGLM06 | 919222 | 4681 | 36 - 122  | 14433 | Ser-12 to Glu-25.  | S0428: 3                                       |  |
| HNGLO10 | 963504 | 4682 | 13 - 285  | 14434 | Asp-1 to Tyr-8.  | S0428: 2                                       |  |
| HNGLO70 | 779223 | 4683 | 49 - 213  | 14435 |  | S0052: 1 and S0428: 1.                         |  |
| HNGLO80 | 775504 | 4684 | 505 - 741 | 14436 | Gly-19 to Leu-30.  | S0428: 2                                       |  |
| HNGLO86 | 780484 | 4685 | 138 - 527 | 14437 | Arg-6 to Ile-11.   | S0052: 1 and S0428: 1.                         |  |
| HNGLO92 | 924891 | 4686 | 73 - 666  | 14438 | Met-11 to Arg-16.  | S0428: 2 and L0748: 1.                         |  |
|         |        |      |           |       | Ser-2 to Trp-8,<br>Arg-15 to Ser-25,<br>Pro-41 to Glu-46,<br>Gln-51 to Asn-57,<br>Gly-106 to Ala-113,<br>Pro-124 to Pro-134. | S0052: 1 and S0428: 1.                         |  |
| HNGLR39 | 835586 | 4687 | 434 - 679 | 14439 |  |  |  |
| HNGLR91 | 789707 | 4688 | 3 - 347   | 14440 | Phe-38 to Glu-48.  | S0428: 3                                       |  |
|         |        |      |           |       | Thr-29 to Ser-41,<br>Lys-54 to Cys-67.   | S0052: 1 and S0428: 1.                         |  |
| HNGLS86 | 784860 | 4689 | 259 - 405 | 14441 |  | S0052: 1 and S0428: 1.                         |  |

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| HNGLT67 | 958777 | 4690 | 377 - 547 | 14442 |  |  | H0589: 1 and S0428: 1.              |  |  |
| HNGLX63 | 934371 | 4691 | 3 - 203   | 14443 |  |  | S0428: 2                            |  |  |
| HNGMA01 | 915306 | 4692 | 251 - 424 | 14444 |  | Pro-31 to Gly-36,<br>Lys-43 to Lys-49.                     | S0428: 2                            |  |  |
| HNGMA49 | 860244 | 4693 | 336 - 94  | 14445 |  |  | S0428: 2 and S0052: 1.              |  |  |
| HNGMB26 | 860166 | 4694 | 33 - 317  | 14446 |  | Pro-24 to Gln-29.  | S0428: 2                            |  |  |
| HNGMB33 | 773752 | 4695 | 263 - 541 | 14447 |  | Ala-5 to Arg-13,<br>Arg-31 to Gly-48,<br>Gly-52 to Thr-58. | S0052: 1 and S0428: 1.              |  |  |
| HNGMC51 | 860243 | 4696 | 11 - 454  | 14448 |  | Asn-1 to Tyr-6.  | H0402: 1, S0428: 1 and<br>L0439: 1. |  |  |
| HNGMD03 | 923041 | 4697 | 121 - 372 | 14449 |  |  | S0428: 2                            |  |  |
| HNGMD04 | 927026 | 4698 | 36 - 338  | 14450 |  | Pro-41 to Leu-47,<br>Thr-50 to Ala-59.                     | S0428: 2                            |  |  |
| HNGME93 | 793483 | 4699 | 16 - 252  | 14451 |  | Ala-12 to Gln-17,<br>Pro-59 to Arg-67.                     | S0428: 2                            |  |  |
| HNGMF04 | 860242 | 4700 | 353 - 592 | 14452 |  | Gln-26 to Lys-36.  | S0052: 1 and S0428: 1.              |  |  |
| HNGMF11 | 966114 | 4701 | 1 - 159   | 14453 |  |  | S0428: 2                            |  |  |
| HNGMF46 | 795236 | 4702 | 226 - 2   | 14454 |  |  | S0428: 2 and H0023: 1.              |  |  |
| HNGMF79 | 772974 | 4703 | 66 - 287  | 14455 |  | Lys-4 to Gly-21,<br>Glu-57 to Thr-62.                      | S0428: 2                            |  |  |
| HNGMF94 | 966091 | 4704 | 147 - 389 | 14456 |  | Pro-34 to Asp-46,<br>Arg-52 to Lys-57.                     | S0428: 2                            |  |  |
| HNGMG06 | 934318 | 4705 | 111 - 254 | 14457 |  |  | S0428: 2                            |  |  |
| HNGMG08 | 958361 | 4706 | 18 - 218  | 14458 |  |  | S0428: 2                            |  |  |
| HNGMH80 | 775503 | 4707 | 335 - 487 | 14459 |  | Pro-31 to Leu-45.  | S0114: 1 and S0428: 1.              |  |  |
| HNGMH93 | 791725 | 4708 | 232 - 429 | 14460 |  | Arg-1 to Met-6,<br>Phe-35 to Leu-40,<br>Pro-55 to Arg-66.  | S0052: 1 and S0428: 1.              |  |  |
| HNGMJ04 | 923011 | 4709 | 284 - 156 | 14461 |  |  | S0428: 2                            |  |  |
| HNGMJ89 | 786340 | 4710 | 107 - 463 | 14462 |  | Ala-63 to Trp-69.  | AR089: 15, AR061: 7<br>S0428: 2     |  |  |
| HNGML07 | 952224 | 4711 | 214 - 453 | 14463 |  | Ala-1 to Glu-19,<br>Gln-25 to Trp-36,<br>Met-53 to Gly-66. | S0428: 2                            |  |  |
| HNGML53 | 860240 | 4712 | 86 - 433  | 14464 |  | Ser-35 to Pro-41.  | S0428: 2                            |  |  |

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| HNGMM51 | 860201 | 4713 | 121 - 501 | 14465 | Arg-8 to Ser-13,<br>Ala-31 to Cys-37,<br>Thr-76 to Glu-83,<br>Leu-93 to Arg-99.  | S0428: 2                                      |  |  |
| HNGMM54 | 933358 | 4714 | 2 - 220   | 14466 | Gly-11 to Asp-33.  | H0250: 2 and S0428: 1.                        |  |  |
| HNGMM87 | 806036 | 4715 | 138 - 437 | 14467 | Asn-10 to Arg-22,<br>Asn-91 to Ser-96.   | H0271: 1 and S0428: 1.                        |  |  |
| HNGMV73 | 806000 | 4716 | 250 - 519 | 14468 | Glu-1 to Leu-11.   | S0428: 2                                      |  |  |
| HNGMW52 | 860231 | 4717 | 176 - 595 | 14469 | Thr-1 to Ser-7.  | S0428: 2                                      |  |  |
| HNGMW92 | 790852 | 4718 | 226 - 618 | 14470 | Asn-8 to Arg-17,<br>Asn-35 to Tyr-40.  | S0052: 1 and S0428: 1.                        |  |  |
| HNGMX80 | 786255 | 4719 | 2 - 268   | 14471 | Lys-13 to Trp-23,<br>Arg-36 to Lys-41.   | S0428: 2, H0610: 1, H0271:<br>1 and S0052: 1. |  |  |
| HNGMX87 | 835612 | 4720 | 3 - 380   | 14472 | Pro-31 to Asp-58,<br>Ser-77 to Gln-87,<br>Pro-89 to Leu-95.                      | S0428: 2                                      |  |  |
| HNGMX91 | 789680 | 4721 | 79 - 309  | 14473 | Ser-1 to Leu-6.  | S0052: 1 and S0428: 1.                        |  |  |
| HNGNA23 | 779201 | 4722 | 1 - 135   | 14474 | Glu-1 to Ser-20.   | S0428: 2                                      |  |  |
| HNGNB01 | 915258 | 4723 | 9 - 83    | 14475 | Phe-1 to Thr-10.   | S0428: 2                                      |  |  |
| HNGNE65 | 963425 | 4724 | 136 - 561 | 14476 | Val-1 to Gly-6.  | S0428: 2                                      |  |  |
| HNGNF40 | 861967 | 4725 | 1 - 237   | 14477 |  | H0300: 2 and S0428: 1.                        |  |  |
| HNGNG37 | 847818 | 4726 | 333 - 506 | 14478 | Leu-49 to Arg-54.  | S0428: 2, L0517: 1 and<br>S0052: 1.           |  |  |
| HNGNH03 | 922831 | 4727 | 117 - 389 | 14479 | Asn-1 to Pro-21,<br>Ser-33 to Trp-42,<br>Thr-52 to Lys-57,<br>Pro-69 to Trp-89.  | H0556: 1 and S0428: 1.                        |  |  |
| HNGNI04 | 926985 | 4728 | 214 - 492 | 14480 | Ser-27 to Gln-38.  | S0428: 2                                      |  |  |
| HNGNI52 | 781913 | 4729 | 146 - 313 | 14481 | Ala-1 to Gly-6,<br>Thr-12 to Thr-19.   | S0052: 1, S0428: 1 and<br>S0053: 1.           |  |  |
| HNGNI75 | 860168 | 4730 | 35 - 319  | 14482 | Arg-45 to Glu-50,<br>Thr-62 to Asn-72.   | S0428: 2                                      |  |  |
| HNGNI94 | 893899 | 4731 | 2 - 370   | 14483 | Pro-9 to Ser-14,<br>Ser-46 to Ala-53,<br>Ala-69 to Ala-86,<br>Arg-96 to Pro-108. | S0052: 2 and S0428: 1.                        |  |  |

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| HNGNM24 | 841902 | 4732 | 67 - 243  | 14484 | Glu-37 to Arg-42.  | H0057: 1 and S0428: 1.              |  |
| HNGNO03 | 860155 | 4733 | 269 - 475 | 14485 | Ala-39 to Arg-46.  | S0428: 2                            |  |
| HNGNR04 | 926870 | 4734 | 229 - 387 | 14486 |  | S0052: 1 and S0428: 1.              |  |
| HNGNS10 | 963470 | 4735 | 575 - 733 | 14487 |  | S0428: 2                            |  |
| HNGNS58 | 788971 | 4736 | 40 - 210  | 14488 |  | S0052: 1 and S0428: 1.              |  |
| HNGNS90 | 787388 | 4737 | 283 - 465 | 14489 |  | S0052: 1 and S0428: 1.              |  |
| HNGNV80 | 908167 | 4738 | 39 - 389  | 14490 | Pro-40 to Arg-54,<br>Pro-57 to Gly-72,<br>Glu-74 to Ala-81,<br>Pro-89 to His-96,<br>Leu-99 to Glu-104. | S0428: 2                            |  |
| HNGNW04 | 860199 | 4739 | 116 - 253 | 14491 | Arg-22 to Glu-36.  | H0486: 1 and S0428: 1.              |  |
| HNGNW85 | 783747 | 4740 | 3 - 248   | 14492 |  | H0402: 1 and S0428: 1.              |  |
| HNGNX37 | 806018 | 4741 | 321 - 539 | 14493 |  | S0428: 2                            |  |
| HNGNX65 | 806042 | 4742 | 140 - 346 | 14494 | Glu-48 to Cys-54.  | S0428: 2                            |  |
| HNGNZ01 | 860158 | 4743 | 261 - 398 | 14495 |  | S0428: 2 and S0052: 1.              |  |
| HNGNZ38 | 790926 | 4744 | 110 - 280 | 14496 |  | S0216: 2 and S0428: 1.              |  |
| HNGNZ91 | 839887 | 4745 | 88 - 399  | 14497 |  | S0428: 3 and L0377: 1.              |  |
| HNGOA11 | 966082 | 4746 | 12 - 224  | 14498 | Leu-39 to Gly-44.  | S0052: 1 and S0428: 1.              |  |
| HNGOA82 | 779154 | 4747 | 285 - 449 | 14499 |  | S0052: 1 and S0428: 1.              |  |
| HNGOB95 | 791700 | 4748 | 1 - 144   | 14500 | Glu-18 to Glu-25,<br>Ser-36 to Val-42.   | S0428: 2                            |  |
| HNGOD68 | 790805 | 4749 | 43 - 282  | 14501 | Asp-73 to Phe-80.  | S0428: 2                            |  |
| HNGOE64 | 860143 | 4750 | 192 - 563 | 14502 |  | S0428: 3                            |  |
| HNGOF50 | 796548 | 4751 | 140 - 367 | 14503 | Ser-10 to Leu-19.  | S0428: 1 and S0053: 1.              |  |
| HNGOF84 | 782188 | 4752 | 1 - 333   | 14504 | Gly-1 to Gly-9,<br>Thr-57 to Thr-71,<br>Thr-77 to Ser-82.  | S0428: 1 and S0216: 1.              |  |
| HNGOF85 | 783717 | 4753 | 417 - 725 | 14505 |  | H0402: 1, S0428: 1 and<br>S0053: 1. |  |
| HNGOG49 | 971178 | 4754 | 1 - 255   | 14506 |  | S0052: 1 and S0428: 1.              |  |
| HNGOH42 | 958943 | 4755 | 337 - 519 | 14507 | Pro-7 to Arg-12.   | H0580: 1 and S0428: 1.              |  |
| HNGOI86 | 806013 | 4756 | 456 - 193 | 14508 | Lys-43 to Thr-58,<br>Asp-77 to Arg-88.   | S0428: 2                            |  |
| HNGOJ13 | 921433 | 4757 | 85 - 339  | 14509 | His-5 to Asn-16,   | S0052: 1 and S0428: 1.              |  |

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|---------|--------|------|-----------|-------|---|--|--|
| HNGOJ64 | 860193 | 4758 | 2 - 304   | 14510 | Tyr-61 to Gly-71.   | S0428: 2   |  |
| HNGOK59 | 789689 | 4759 | 108 - 242 | 14511 | Ser-14 to Arg-25.   | S0428: 2   |  |
| HNGOK86 | 784813 | 4760 | 203 - 442 | 14512 | Pro-22 to Gln-28.   | S0116: 1 and S0428: 1.   |  |
| HNGOL14 | 860185 | 4761 | 3 - 143   | 14513 |   | S0052: 1 and S0428: 1.   |  |
| HNGOO22 | 953888 | 4762 | 3 - 155   | 14514 |   | S0052: 1 and S0428: 1.   |  |
| HNGOP04 | 926972 | 4763 | 230 - 406 | 14515 |   | S0428: 2   |  |
| HNGOP10 | 963483 | 4764 | 289 - 438 | 14516 | Phe-4 to Thr-10,<br>Pro-23 to Ser-30.   | L0521: 2, H0305: 1, S0002:<br>1, S0428: 1, L0758: 1 and<br>L0759: 1. |  |
| HNGOS22 | 860176 | 4765 | 69 - 314  | 14517 | Pro-8 to Ser-28.  | S0134: 1 and S0428: 1.   |  |
| HNGOV03 | 922963 | 4766 | 53 - 286  | 14518 | Phe-33 to Leu-39.   | S0428: 2   |  |
| HNGOV65 | 921416 | 4767 | 2 - 187   | 14519 |   | S0052: 2 and S0428: 1.   |  |
| HNGOW13 | 926929 | 4768 | 2 - 310   | 14520 | Gln-11 to His-23,<br>Glu-25 to Gly-41.  | S0428: 2   |  |
| HNGOY01 | 915210 | 4769 | 162 - 359 | 14521 | Thr-19 to Cys-27,<br>Val-33 to Gly-39.  | S0428: 2   |  |
| HNGOY10 | 915012 | 4770 | 3 - 386   | 14522 | Ser-23 to Ala-30,<br>Ala-44 to Ala-54.  | H0457: 1 and S0428: 1.   |  |
| HNGOZ17 | 880777 | 4771 | 118 - 246 | 14523 |   | S0052: 1 and S0428: 1.   |  |
| HNGPH12 | 969683 | 4772 | 174 - 353 | 14524 |   | S0428: 2 and S0053: 1.   |  |
| HNGPI08 | 947384 | 4773 | 461 - 655 | 14525 | Glu-17 to Gly-23.   | S0428: 2 and L0766: 1.   |  |
| HNGPJ23 | 855983 | 4774 | 250 - 507 | 14526 | Pro-1 to Leu-7,<br>Lys-14 to Trp-22,<br>Leu-24 to Gly-30,<br>Ser-47 to Gly-53,<br>Gln-71 to Leu-86. | H0444: 2 and S0428: 1.   |  |
| HNGPJ51 | 805997 | 4775 | 136 - 288 | 14527 |   | S0428: 2   |  |
| HNGPL91 | 959740 | 4776 | 177 - 350 | 14528 | Ala-9 to Trp-16.  | S0052: 1 and S0428: 1.   |  |
| HNGPN01 | 913782 | 4777 | 105 - 413 | 14529 | Ser-17 to Ser-25.   | S0428: 2   |  |
| HNGPN46 | 954997 | 4778 | 331 - 588 | 14530 | Lys-1 to Asp-7.   | S0428: 2   |  |
| HNGPP61 | 860145 | 4779 | 119 - 475 | 14531 |   | S0428: 2   |  |
| HNGPR03 | 949269 | 4780 | 3 - 140   | 14532 | Gln-39 to Cys-45.   | S0428: 2   |  |
| HNGPS10 | 963469 | 4781 | 3 - 239   | 14533 |   | S0428: 1 and S0216: 1.   |  |
| HNHAB29 | 860141 | 4782 | 2 - 145   | 14534 | Arg-16 to Gly-23.   | S0053: 2   |  |

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| HNHAB93 | 527921 | 4783 | 3 - 149   | 14535 | Gly-1 to Gly-9,<br>Glu-24 to Gly-35.   | S0053: 2                            |  |
| HNHAF77 | 527971 | 4784 | 7 - 135   | 14536 |  | S0053: 2                            |  |
| HNHAG50 | 527815 | 4785 | 22 - 180  | 14537 | Gly-10 to Trp-22,<br>Pro-25 to Cys-32,<br>Asp-35 to Ser-43.                      | S0053: 2                            |  |
| HNHAG51 | 725898 | 4786 | 10 - 174  | 14538 |  | S0053: 2                            |  |
| HNHAG64 | 527809 | 4787 | 76 - 231  | 14539 |  | S0053: 2                            |  |
| HNHAH38 | 860118 | 4788 | 140 - 388 | 14540 | Tyr-34 to Thr-39.  | S0053: 2                            |  |
| HNHAH84 | 527806 | 4789 | 89 - 235  | 14541 | Lys-1 to Trp-10.   | S0053: 2                            |  |
| HNHAI11 | 967668 | 4790 | 81 - 377  | 14542 | Gln-37 to Asn-42,<br>Arg-47 to Lys-67.   | L0766: 2, S0053: 2 and<br>L0758: 1. |  |
| HNHAI15 | 860128 | 4791 | 2 - 58    | 14543 |  | S0053: 2                            |  |
| HNHAI68 | 527572 | 4792 | 85 - 165  | 14544 |  | S0053: 2                            |  |
| HNHAJ59 | 703576 | 4793 | 274 - 417 | 14545 |  | S0053: 1 and S0216: 1.              |  |
| HNHAK83 | 574391 | 4794 | 25 - 219  | 14546 |  | S0053: 2                            |  |
| HNHAP79 | 574384 | 4795 | 2 - 139   | 14547 |  | S0053: 2                            |  |
| HNHAW75 | 515480 | 4796 | 240 - 1   | 14548 | Lys-19 to Gln-25,<br>Leu-68 to Gly-73.   | S0053: 2                            |  |
| HNHBC30 | 693318 | 4797 | 93 - 230  | 14549 |  | S0053: 1 and H0423: 1.              |  |
| HNHBE19 | 724404 | 4798 | 56 - 190  | 14550 |  | S0053: 2                            |  |
| HNHBH62 | 574387 | 4799 | 1 - 240   | 14551 | Ser-1 to Phe-10,<br>Leu-14 to Ile-19,<br>Ser-41 to Ser-47,<br>Ala-61 to Gly-66.  | S0053: 2                            |  |
| HNHBH72 | 577334 | 4800 | 241 - 399 | 14552 | Thr-19 to Ser-27.  | S0053: 2                            |  |
| HNHBK22 | 574305 | 4801 | 66 - 272  | 14553 | Arg-1 to Arg-7,<br>Ala-16 to Ser-24.   | S0053: 2 and S0216: 1.              |  |
| HNHBK59 | 959771 | 4802 | 2 - 286   | 14554 | Arg-2 to Gly-11.   | S0053: 2                            |  |
| HNHBK80 | 721688 | 4803 | 82 - 240  | 14555 |  | S0053: 2                            |  |
| HNHBM63 | 574310 | 4804 | 135 - 302 | 14556 |  | H0271: 1 and S0053: 1.              |  |
| HNHBM66 | 860119 | 4805 | 24 - 374  | 14557 | Thr-42 to His-47,<br>Leu-55 to Trp-60,<br>Thr-75 to His-83,<br>Pro-85 to Glu-96. | S0053: 2                            |  |

|         |        |      |           |       |  |                                  |  |
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| HNHBO20 | 793416 | 4806 | 460 - 666 | 14558 | Tyr-8 to Ser-16.   | S0052: 1, S0428: 1 and S0053: 1. |  |
| HNHBO71 | 868059 | 4807 | 2 - 151   | 14559 |  | S0053: 2                         |  |
| HNHBO83 | 526746 | 4808 | 109 - 237 | 14560 | Glu-22 to Val-33.  | S0053: 2                         |  |
| HNHBQ53 | 574090 | 4809 | 14 - 175  | 14561 |  | S0053: 2                         |  |
| HNHBS07 | 953850 | 4810 | 57 - 173  | 14562 |  | S0053: 2                         |  |
| HNHBS23 | 574048 | 4811 | 92 - 328  | 14563 | Thr-1 to Lys-6,<br>Gly-44 to Gly-51.                       | S0053: 2                         |  |
| HNHBS38 | 925693 | 4812 | 493 - 963 | 14564 | Val-23 to Asn-43,<br>Ser-91 to Gln-107.                    | H0650: 1, S0428: 1 and S0053: 1. |  |
| HNHBU20 | 669866 | 4813 | 129 - 257 | 14565 | Lys-21 to Phe-27.  | S0053: 2                         |  |
| HNHBU21 | 574030 | 4814 | 138 - 332 | 14566 | Thr-14 to Met-26.  | S0053: 3                         |  |
|         | 723352 | 9590 | 246 - 401 | 19342 | Leu-12 to Ser-18.  |                                  |  |
| HNHBU37 | 574139 | 4815 | 3 - 338   | 14567 | Thr-1 to Leu-8,<br>Thr-50 to Lys-57.                       | S0053: 2                         |  |
| HNHBU79 | 597123 | 4816 | 268 - 89  | 14568 |  | S0053: 2                         |  |
| HNHBU82 | 577193 | 4817 | 185 - 394 | 14569 | Lys-8 to Arg-13,<br>Ile-24 to Tyr-29,<br>Arg-49 to Arg-60. | S0053: 2                         |  |
| HNHBU91 | 765815 | 4818 | 62 - 232  | 14570 | Thr-1 to Leu-6.  | S0053: 2                         |  |
| HNHBU92 | 753550 | 4819 | 12 - 254  | 14571 | Glu-8 to Leu-16.   | S0053: 3                         |  |
| HNHBU93 | 757745 | 4820 | 71 - 229  | 14572 |  | S0053: 2                         |  |
| HNHBU55 | 574026 | 4821 | 85 - 219  | 14573 | Leu-1 to Lys-8,<br>Arg-19 to Cys-29.                       | S0053: 2                         |  |
| HNHBY06 | 936012 | 4822 | 28 - 210  | 14574 |  | S0053: 1 and S0216: 1.           |  |
| HNHBY45 | 774280 | 4823 | 213 - 389 | 14575 |  | S0053: 1 and S0216: 1.           |  |
| HNHBY60 | 964712 | 4824 | 2 - 187   | 14576 | Pro-7 to Ala-12.   | S0053: 3                         |  |
| HNHBY83 | 694401 | 4825 | 94 - 492  | 14577 | His-21 to Asp-38,<br>Glu-41 to Ile-53.                     | S0053: 2                         |  |
| HNHBZ03 | 924873 | 4826 | 152 - 349 | 14578 |  | S0053: 2                         |  |
| HNHCC42 | 577343 | 4827 | 143 - 274 | 14579 | Gly-15 to His-20.  | S0053: 2                         |  |
| HNHCD63 | 574309 | 4828 | 102 - 359 | 14580 |  | S0053: 2                         |  |
| HNHCE68 | 574028 | 4829 | 100 - 387 | 14581 | Ser-4 to Gly-12.   | S0053: 2                         |  |
| HNHCJ25 | 679154 | 4830 | 3 - 311   | 14582 | Arg-1 to Asn-13,<br>Pro-35 to Ala-41.                      | S0053: 2                         |  |



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|---------|--------|------|-----------|-------|--|--|--|--|--|
| HNHCJ35 | 860112 | 4831 | 3 - 182   | 14583 |  |  | S0053: 2   |  |  |
| HNHCJ39 | 574084 | 4832 | 1 - 129   | 14584 |  | Lys-14 to Ala-19,<br>Ser-27 to Ser-34.   | S0053: 2 and L0789: 1.   |  |  |
| HNHCJ68 | 753558 | 4833 | 65 - 250  | 14585 |  | Lys-1 to Ala-11,<br>Pro-19 to Lys-28,<br>Ser-36 to Trp-41.                         | S0053: 2   |  |  |
| HNHCJ71 | 760565 | 4834 | 79 - 198  | 14586 |  | Ser-13 to Cys-23.  | S0053: 1 and S0216: 1.   |  |  |
| HNHCJ80 | 786033 | 4835 | 305 - 427 | 14587 |  | Lys-12 to Arg-20.  | S0053: 1 and H0436: 1.   |  |  |
| HNHCJ20 | 780527 | 4836 | 3 - 257   | 14588 |  | Leu-52 to Ser-60,<br>Gln-63 to Leu-68.   | AR050: 182, AR054: 144,<br>AR051: 129<br>H0060: 1, S0428: 1 and<br>S0053: 1. |  |  |
| HNHCL38 | 574082 | 4837 | 1 - 225   | 14589 |  | Gly-1 to Leu-11.   | S0053: 2   |  |  |
| HNHCL47 | 719476 | 4838 | 50 - 277  | 14590 |  | Ala-1 to Glu-9,<br>Ser-14 to Leu-19,<br>Gly-25 to Leu-41.                          | S0053: 2   |  |  |
| HNHCM80 | 573010 | 4839 | 9 - 293   | 14591 |  |  | S0052: 1 and S0053: 1.   |  |  |
| HNHCN70 | 577186 | 4840 | 62 - 193  | 14592 |  |  | S0053: 2   |  |  |
| HNHCO27 | 574337 | 4841 | 64 - 198  | 14593 |  | Val-5 to Gln-14.   | S0053: 2   |  |  |
| HNHCO48 | 860641 | 4842 | 26 - 361  | 14594 |  | Ser-11 to Ala-24,<br>Glu-30 to Lys-37,<br>Cys-45 to Gly-54,<br>Thr-101 to Ser-112. | S0052: 2 and S0053: 1.   |  |  |
| HNHCO64 | 574147 | 4843 | 61 - 246  | 14595 |  |  | S0053: 2   |  |  |
| HNHCP18 | 666844 | 4844 | 2 - 172   | 14596 |  | Pro-1 to Lys-6.  | S0053: 2   |  |  |
| HNHCP22 | 934307 | 4845 | 284 - 586 | 14597 |  | Phe-46 to Pro-54,<br>Cys-69 to Glu-74.   | S0428: 1 and S0053: 1.   |  |  |
| HNHCP37 | 866950 | 4846 | 197 - 373 | 14598 |  |  | S0114: 1 and S0053: 1.   |  |  |
| HNHCP78 | 506696 | 4847 | 3 - 194   | 14599 |  | Leu-3 to Arg-9.  | S0053: 2   |  |  |
| HNHCP88 | 574341 | 4848 | 1 - 240   | 14600 |  |  | S0053: 2   |  |  |
| HNHCQ70 | 757410 | 4849 | 3 - 263   | 14601 |  |  | S0428: 1, S0053: 1, L0748:<br>1 and L0754: 1.                                |  |  |
| HNHCU18 | 574394 | 4850 | 32 - 130  | 14602 |  |  | S0053: 2   |  |  |
| HNHCU42 | 850918 | 4851 | 307 - 666 | 14603 |  | Met-34 to Gly-43,<br>Val-56 to Arg-62,<br>Glu-85 to Gly-90.                        | H0457: 3, H0305: 1, H0589:<br>1 and S0053: 1.                                |  |  |

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|---------|--------|------|-----------|-------|--|----------------------------------|--|
| HNHCU57 | 735005 | 4852 | 3 - 239   | 14604 | Gln-58 to Gly-65.  | S0053: 2                         |  |
| HNHCV72 | 766213 | 4853 | 221 - 343 | 14605 |  | S0053: 1, S0216: 1 and L0439: 1. |  |
| HNHCZ07 | 953881 | 4854 | 18 - 176  | 14606 | Ala-33 to Trp-39.  | H0650: 1 and S0053: 1.           |  |
| HNHCZ23 | 574325 | 4855 | 204 - 332 | 14607 |  | S0053: 2                         |  |
| HNHDA07 | 855988 | 4856 | 149 - 394 | 14608 | Ser-1 to Ala-10,<br>Leu-12 to Met-19,<br>Ser-37 to Ser-46,<br>Cys-52 to Leu-58,<br>Pro-74 to Tyr-80. | S0053: 1, S0216: 1 and H0444: 1. |  |
| HNHDA79 | 574350 | 4857 | 3 - 152   | 14609 | Gln-15 to Gly-20.  | S0053: 2                         |  |
| HNHDA88 | 574150 | 4858 | 1 - 90    | 14610 |  | S0053: 2                         |  |
| HNHDB11 | 574323 | 4859 | 260 - 442 | 14611 | Trp-7 to Gly-15,<br>Thr-17 to Gln-31,<br>Ser-40 to Ser-45.   | S0053: 2                         |  |
| HNHDB23 | 676290 | 4860 | 76 - 303  | 14612 |  | S0053: 2                         |  |
| HNHDB46 | 574329 | 4861 | 146 - 379 | 14613 |  | S0053: 2                         |  |
| HNHDB93 | 800661 | 4862 | 1 - 72    | 14614 |  | S0053: 1 and S0216: 1.           |  |
| HNHDC26 | 574304 | 4863 | 145 - 300 | 14615 |  | S0053: 2                         |  |
| HNHDC47 | 708705 | 4864 | 22 - 189  | 14616 |  | S0053: 2                         |  |
| HNHDC83 | 577339 | 4865 | 192 - 434 | 14617 | Ser-1 to Asn-13.   | S0053: 2                         |  |
| HNHDC95 | 734794 | 4866 | 13 - 105  | 14618 |  | S0053: 2                         |  |
| HNHDE38 | 709277 | 4867 | 132 - 260 | 14619 | Ser-26 to Cys-31.  | S0053: 1 and H0521: 1.           |  |
| HNHDF31 | 968249 | 4868 | 8 - 130   | 14620 | Leu-13 to Ser-20,<br>Glu-28 to Ser-33.   | S0053: 2                         |  |
| HNHDF48 | 574385 | 4869 | 61 - 174  | 14621 |  | S0053: 2                         |  |
| HNHDE06 | 936046 | 4870 | 2 - 226   | 14622 | Arg-18 to Arg-23.  | S0053: 2                         |  |
| HNHDE60 | 860101 | 4871 | 49 - 210  | 14623 |  | S0053: 2                         |  |
| HNHDL62 | 577701 | 4872 | 29 - 193  | 14624 | Gly-48 to Arg-54.  | S0053: 2                         |  |
| HNHDL90 | 789082 | 4873 | 116 - 397 | 14625 | Arg-1 to Glu-6,<br>Gln-25 to Gly-30,<br>Pro-44 to Gly-56,<br>Gly-60 to Trp-65.                       | S0053: 1 and S0216: 1.           |  |
| HNHDL94 | 773592 | 4874 | 201 - 326 | 14626 | Gly-7 to Tyr-13.   | S0053: 2                         |  |
| HNHDM03 | 924713 | 4875 | 1 - 285   | 14627 |  | S0053: 1 and S0216: 1.           |  |

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| HNHDM40  | 711352 | 4876 | 93 - 254  | 14628 | His-27 to Lys-38.   | S0053: 2                                    |  |
| HNHDM50  | 724550 | 4877 | 33 - 281  | 14629 | Cys-8 to Trp-19.  | S0053: 2                                    |  |
| HNHDM74  | 506621 | 4878 | 263 - 436 | 14630 | Asn-29 to Ser-35.   | S0053: 2                                    |  |
| HNHDM27  | 573388 | 4879 | 2 - 187   | 14631 |   | S0053: 2                                    |  |
| HNHDM79  | 735007 | 4880 | 178 - 273 | 14632 |   | S0052: 1 and S0053: 1.                      |  |
| HNHDP04  | 859988 | 4881 | 241 - 750 | 14633 | Gly-17 to Gly-23.   | S0053: 4                                    |  |
| HNHDP29  | 746093 | 4882 | 172 - 354 | 14634 |   | S0053: 1 and S0216: 1.                      |  |
| HNHDQ11  | 967334 | 4883 | 332 - 496 | 14635 | Arg-8 to Gln-14,<br>Lys-19 to Trp-38.                     | H0486: 1 and S0053: 1.                      |  |
| HNHDQ17  | 573328 | 4884 | 132 - 293 | 14636 | Ile-1 to Val-10.  | S0053: 3                                    |  |
| HNHDQ35  | 707334 | 4885 | 1 - 126   | 14637 | Lys-1 to Asn-16,<br>Lys-18 to Cys-28.                     | H0264: 1 and S0053: 1.                      |  |
| HNHDQ39  | 704560 | 4886 | 2 - 151   | 14638 | Gln-1 to Trp-9.   | S0053: 2                                    |  |
| HNHDQ56  | 577256 | 4887 | 322 - 507 | 14639 | Leu-24 to Arg-29.   | S0053: 3                                    |  |
| HNHDQ65  | 573357 | 4888 | 148 - 258 | 14640 |   | S0053: 2                                    |  |
| HNHDQ71  | 496246 | 4889 | 143 - 400 | 14641 |   | S0053: 2                                    |  |
| HNHDQ93  | 923817 | 4890 | 37 - 231  | 14642 |   | S0053: 1 and H0445: 1.                      |  |
| HNHDR10  | 968082 | 4891 | 1 - 189   | 14643 | Asp-7 to Pro-14,<br>Arg-19 to Met-27.                     | S0053: 2                                    |  |
| HNHDR28  | 685580 | 4892 | 25 - 240  | 14644 | Glu-16 to Arg-34.   | S0053: 2                                    |  |
| HNHDR71  | 575480 | 4893 | 51 - 230  | 14645 | Arg-6 to Tyr-11,<br>Asp-19 to Arg-26.                     | S0053: 2                                    |  |
| HNHDS27  | 683585 | 4894 | 70 - 213  | 14646 | Tyr-39 to Asn-48.   | S0053: 3                                    |  |
| HNHDS83  | 573347 | 4895 | 1 - 189   | 14647 |   | S0053: 2                                    |  |
| HNHDS88  | 573349 | 4896 | 184 - 348 | 14648 |   | S0053: 2                                    |  |
| HNHDT01  | 917004 | 4897 | 159 - 335 | 14649 |   | H0271: 1 and S0053: 1.                      |  |
| HNHDT28  | 887158 | 4898 | 2 - 397   | 14650 |   | AR054: 9, AR051: 4,<br>AR050: 2<br>S0053: 4 |  |
| HNHDT42  | 574455 | 4899 | 91 - 258  | 14651 | Gln-1 to Phe-16.  | S0052: 1 and S0053: 1.                      |  |
| HNHDT54  | 728871 | 4900 | 75 - 407  | 14652 | Pro-64 to Trp-76.   | H0580: 1 and S0053: 1.                      |  |
| HNHDT83  | 717796 | 4901 | 5 - 442   | 14653 | Ser-1 to Asp-8,<br>Pro-46 to Asp-51,<br>Gly-84 to Pro-92. | S0053: 2                                    |  |
| HNHDTV50 | 506622 | 4902 | 3 - 209   | 14654 | His-1 to Asn-7.   | S0053: 2                                    |  |

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| HNHDV84 | 750262 | 4903 | 3 - 242   | 14655 | Ser-21 to Gln-35.                                   | S0053: 2                                   |  |
| HNHDW78 | 723189 | 4904 | 1 - 285   | 14656 | Leu-13 to Trp-25.                                   | S0053: 2, S0052: 1 and S0428: 1.           |  |
| HNHDX80 | 779334 | 4905 | 98 - 298  | 14657 | His-7 to Ser-12.                                    | S0053: 1 and S0216: 1.                     |  |
| HNHDX84 | 615272 | 4906 | 3 - 119   | 14658 | His-1 to Ser-6.                                     | S0053: 2                                   |  |
| HNHDY18 | 573329 | 4907 | 120 - 242 | 14659 | Gly-11 to Met-16.                                   | S0053: 2                                   |  |
| HNHDY37 | 582473 | 4908 | 19 - 123  | 14660 | Asn-1 to Leu-20.                                    | H0305: 1, L0761: 1, L0791: 1 and S0053: 1. |  |
| HNHDY45 | 576776 | 4909 | 142 - 282 | 14661 | Glu-1 to Gly-6, Val-40 to Phe-47.                   | S0052: 2 and S0053: 1.                     |  |
| HNHDY50 | 924211 | 4910 | 2 - 175   | 14662 |   | S0053: 2                                   |  |
| HNHDY54 | 945708 | 4911 | 1 - 546   | 14663 | Ser-25 to Gly-33, Ser-43 to Trp-52.                 | AR061: 8, AR089: 2 S0053: 2                |  |
| HNHDY83 | 795954 | 4912 | 1 - 255   | 14664 | Gly-1 to Asn-6, Pro-19 to Leu-28.                   | S0053: 2                                   |  |
| HNHDZ14 | 506738 | 4913 | 3 - 200   | 14665 | His-1 to Pro-7, Ser-44 to Thr-50.                   | S0053: 2                                   |  |
| HNHDZ26 | 419716 | 4914 | 96 - 431  | 14666 | Trp-1 to His-6, Leu-25 to Trp-37.                   | S0053: 2 and L0774: 1.                     |  |
| HNHDZ69 | 573346 | 4915 | 72 - 182  | 14667 |   | S0053: 2                                   |  |
| HNHEA06 | 835893 | 4916 | 110 - 331 | 14668 | Leu-1 to Thr-14, Phe-30 to Phe-40.                  | H0581: 1 and S0053: 1.                     |  |
| HNHEA21 | 574868 | 4917 | 1 - 243   | 14669 |   | S0052: 1 and S0053: 1.                     |  |
| HNHEA40 | 573327 | 4918 | 3 - 179   | 14670 |   | S0053: 2                                   |  |
| HNHEA96 | 796491 | 4919 | 1 - 237   | 14671 |   | S0053: 1 and S0216: 1.                     |  |
| HNHEB47 | 573339 | 4920 | 3 - 182   | 14672 | Tyr-34 to Ser-40, Arg-46 to Arg-56.                 | S0053: 2                                   |  |
| HNHEB88 | 412655 | 4921 | 51 - 140  | 14673 |   | S0053: 2                                   |  |
| HNHEC40 | 576507 | 4922 | 112 - 267 | 14674 | Glu-24 to Gly-30, Ser-38 to Gly-47.                 | S0053: 2                                   |  |
| HNHEC51 | 577306 | 4923 | 68 - 418  | 14675 | Ala-3 to Ser-8, Pro-24 to Gly-35, Gly-51 to Thr-60. | S0053: 2 and H0271: 1.                     |  |
| HNHEC96 | 796463 | 4924 | 1 - 291   | 14676 | Pro-7 to Met-12, Gln-22 to Ser-28.                  | S0053: 1 and S0216: 1.                     |  |
| HNHED02 | 920414 | 4925 | 188 - 340 | 14677 | Cys-2 to Asn-8.                                     | S0053: 2                                   |  |

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| HNHED51 | 682992 | 4926 | 339 - 686 | 14678 | Thr-5 to Gly-13.   | S0053: 1 and H0436: 1.                         |  |
| HNHED82 | 576541 | 4927 | 289 - 53  | 14679 | Pro-17 to Leu-25,<br>Gln-33 to Ser-41,<br>Ala-62 to Ser-71,<br>Ser-74 to Lys-79. | S0053: 2                                       |  |
| HNHED83 | 576540 | 4928 | 124 - 330 | 14680 | Pro-9 to His-15,<br>Lys-27 to Lys-34,<br>Lys-40 to Ile-55.                       | S0053: 2                                       |  |
| HNHEE25 | 576512 | 4929 | 183 - 383 | 14681 |  | S0053: 2                                       |  |
| HNHEE30 | 576440 | 4930 | 267 - 410 | 14682 | His-8 to Cys-40.   | S0053: 2                                       |  |
| HNHEE38 | 860073 | 4931 | 2 - 241   | 14683 |  | S0053: 2                                       |  |
| HNHEE40 | 576442 | 4932 | 289 - 426 | 14684 | Asp-13 to Ala-19,<br>Thr-40 to Gly-46.   | S0053: 2                                       |  |
| HNHEE49 | 576820 | 4933 | 74 - 313  | 14685 |  | S0053: 2                                       |  |
| HNHEF01 | 916792 | 4934 | 53 - 337  | 14686 | Pro-1 to Pro-6,<br>Gly-58 to Glu-63,<br>Gln-68 to Lys-77.                        | S0053: 2                                       |  |
| HNHEF73 | 576419 | 4935 | 3 - 206   | 14687 | Lys-30 to Met-35.  | S0053: 2                                       |  |
| HNHEG28 | 586443 | 4936 | 28 - 336  | 14688 | Thr-1 to Thr-11,<br>Val-15 to Lys-26,<br>Lys-80 to Gly-87.                       | AR050: 77, AR051: 70,<br>AR054: 67<br>S0053: 2 |  |
| HNHEG32 | 576426 | 4937 | 159 - 404 | 14689 | Glu-1 to Leu-7,<br>Ser-27 to Lys-32,<br>Glu-36 to Glu-42,<br>Ala-44 to Arg-53.   | S0053: 2                                       |  |
| HNHEG49 | 576415 | 4938 | 270 - 383 | 14690 |  | S0053: 2                                       |  |
| HNHEG68 | 861181 | 4939 | 192 - 299 | 14691 |  | S0212: 1 and S0053: 1.                         |  |
| HNHEG91 | 506278 | 4940 | 158 - 289 | 14692 | Ile-24 to Val-29.  | S0053: 2                                       |  |
| HNHEH04 | 582732 | 4941 | 64 - 171  | 14693 | Glu-27 to Gly-36.  | S0053: 2                                       |  |
| HNHEH37 | 490514 | 4942 | 509 - 204 | 14694 | Ile-29 to Ser-42,<br>Glu-66 to Ala-92.   | S0053: 2                                       |  |
|         | 860064 | 9591 | 122 - 331 | 19343 | Ala-12 to Cys-17,<br>Glu-20 to Leu-30.   |  |  |
| HNHEH41 | 578589 | 4943 | 1 - 228   | 14695 | Gln-1 to Arg-15.   | H0073: 1 and S0053: 1.                         |  |
| HNHEH51 | 678114 | 4944 | 234 - 389 | 14696 |  | S0053: 2                                       |  |
| HNHEH52 | 860021 | 4945 | 67 - 372  | 14697 | Thr-11 to Thr-18,  | S0053: 2                                       |  |

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| HNHEH60 | 576517 | 4946 | 27 - 170  | 14698 | Thr-31 to Glu-40.   |  | S0053: 2                            |  |
| HNHEI06 | 923080 | 4947 | 220 - 375 | 14699 | Arg-1 to Arg-6,<br>His-24 to Glu-32.  |  | S0053: 1 and S0216: 1.              |  |
| HNHEI64 | 576549 | 4948 | 191 - 313 | 14700 |   |  | S0053: 2                            |  |
| HNHEI07 | 953586 | 4949 | 59 - 325  | 14701 |   |  | S0053: 1, S0216: 1 and<br>L0594: 1. |  |
| HNHEI11 | 967265 | 4950 | 1 - 237   | 14702 | Glu-1 to Asp-13.  |  | S0053: 1 and S0216: 1.              |  |
| HNHEI23 | 576533 | 4951 | 19 - 288  | 14703 | Tyr-1 to Phe-8,<br>Gly-21 to His-34,<br>Gly-42 to Gly-52,<br>Gly-57 to Asn-64,<br>Leu-81 to Pro-86. |  | S0053: 3                            |  |
| HNHEI24 | 916556 | 4952 | 78 - 230  | 14704 |   |  | S0053: 2                            |  |
| HNHEI44 | 716723 | 4953 | 106 - 207 | 14705 | Ser-1 to Cys-6.   |  | S0053: 2                            |  |
| HNHEI57 | 576535 | 4954 | 148 - 246 | 14706 |   |  | S0053: 2                            |  |
| HNHEI85 | 964882 | 4955 | 1 - 162   | 14707 | Ala-24 to Glu-31,<br>Asn-39 to Gly-46.  |  | H0063: 1 and S0053: 1.              |  |
| HNHEK01 | 916790 | 4956 | 223 - 465 | 14708 | Cys-17 to Ser-25.   |  | H0589: 1 and S0053: 1.              |  |
| HNHEK63 | 576819 | 4957 | 1 - 465   | 14709 | Gly-1 to Leu-6,<br>Gly-40 to Arg-46,<br>Cys-73 to Ser-80.   |  | S0053: 2                            |  |
| HNHEK79 | 954548 | 4958 | 43 - 165  | 14710 |   |  | S0114: 1 and S0053: 1.              |  |
| HNHEK83 | 576420 | 4959 | 3 - 212   | 14711 | Glu-4 to Thr-11,<br>Ile-35 to Asn-46.   |  | S0053: 2                            |  |
| HNHEL09 | 576418 | 4960 | 3 - 116   | 14712 | Lys-26 to Asn-34.   |  | S0053: 2                            |  |
| HNHEL37 | 713723 | 4961 | 345 - 223 | 14713 |   |  | S0053: 1 and H0521: 1.              |  |
| HNHEL42 | 859830 | 4962 | 209 - 412 | 14714 |   |  | S0053: 1 and S0216: 1.              |  |
| HNHEL44 | 576423 | 4963 | 3 - 212   | 14715 |   |  | S0053: 2                            |  |
| HNHEL53 | 506281 | 4964 | 124 - 273 | 14716 |   |  | S0053: 2                            |  |
| HNHEL82 | 576430 | 4965 | 246 - 386 | 14717 |   |  | S0053: 2 and H0589: 1.              |  |
| HNHEL94 | 786930 | 4966 | 1 - 249   | 14718 | Lys-17 to Gln-22.   |  | H0421: 2 and S0053: 1.              |  |
| HNHEM04 | 950725 | 4967 | 2 - 154   | 14719 |   |  | S0053: 2                            |  |
| HNHEM34 | 860047 | 4968 | 3 - 170   | 14720 | Arg-38 to Lys-43.   |  | S0428: 1 and S0053: 1.              |  |
| HNHEM35 | 576424 | 4969 | 156 - 341 | 14721 |   |  | S0053: 2                            |  |

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| HNHEM83 | 825354 | 4970 | 30 - 425  | 14722 |  |  | S0052: 2, S0216: 2 and S0053: 1. |  |  |
| HNHEM85 | 783480 | 4971 | 178 - 345 | 14723 | Leu-2 to Ser-20,<br>Lys-50 to Phe-56.                      |  | H0264: 1 and S0053: 1.           |  |  |
| HNHEN02 | 920420 | 4972 | 210 - 311 | 14724 |  |  | S0053: 2                         |  |  |
| HNHEN16 | 615402 | 4973 | 2 - 292   | 14725 |  |  | S0053: 2                         |  |  |
| HNHEN56 | 733521 | 4974 | 182 - 346 | 14726 |  |  | H0264: 1, S0053: 1 and L0600: 1. |  |  |
| HNHEN66 | 576344 | 4975 | 40 - 255  | 14727 | Pro-25 to Pro-32.  |  | S0053: 2                         |  |  |
| HNHEN76 | 576342 | 4976 | 1 - 237   | 14728 | Ala-28 to Gln-44.  |  | S0053: 2 and S0428: 1.           |  |  |
| HNHEO29 | 576548 | 4977 | 120 - 440 | 14729 | His-10 to Thr-16.  |  | S0053: 2                         |  |  |
| HNHEO43 | 860046 | 4978 | 175 - 348 | 14730 |  |  | H0556: 1 and S0053: 1.           |  |  |
| HNHEO83 | 706683 | 4979 | 17 - 172  | 14731 | His-15 to Gly-20,<br>Ser-36 to Glu-47.                     |  | S0053: 2                         |  |  |
| HNHEO84 | 859992 | 4980 | 102 - 272 | 14732 | Thr-3 to Lys-9,<br>Cys-50 to Arg-56.                       |  | S0053: 2                         |  |  |
| HNHEP49 | 576453 | 4981 | 3 - 281   | 14733 | Pro-1 to Cys-14,<br>Glu-40 to Ser-48.                      |  | S0053: 2                         |  |  |
| HNHEQ07 | 953577 | 4982 | 141 - 314 | 14734 | Thr-8 to Asp-19.   |  | S0053: 2 and S0428: 1.           |  |  |
| HNHEQ46 | 576437 | 4983 | 168 - 311 | 14735 |  |  | S0053: 2                         |  |  |
| HNHEQ60 | 576455 | 4984 | 2 - 133   | 14736 | Ala-1 to Arg-6.  |  | S0053: 2                         |  |  |
| HNHEQ70 | 577188 | 4985 | 73 - 426  | 14737 | Arg-1 to Cys-9,<br>Leu-64 to Gly-75.                       |  | S0053: 2                         |  |  |
| HNHEQ92 | 576456 | 4986 | 56 - 226  | 14738 | His-24 to Ile-29,<br>Tyr-31 to Asn-41.                     |  | S0053: 2                         |  |  |
| HNHEQ94 | 577303 | 4987 | 121 - 249 | 14739 | Glu-26 to Gln-37.  |  | S0053: 2                         |  |  |
| HNHER06 | 918651 | 4988 | 1 - 285   | 14740 | Gln-11 to His-19,<br>Ala-25 to Glu-38.                     |  | S0053: 1 and S0216: 1.           |  |  |
| HNHER21 | 496484 | 4989 | 92 - 529  | 14741 | Pro-8 to Arg-13,<br>Ser-33 to Val-38,<br>Ile-50 to Ala-57. |  | S0053: 2                         |  |  |
| HNHES05 | 932092 | 4990 | 1 - 123   | 14742 |  |  | S0053: 2                         |  |  |
| HNHES06 | 859833 | 4991 | 2 - 292   | 14743 |  |  | S0053: 1 and S0216: 1.           |  |  |
| HNHES07 | 953443 | 4992 | 55 - 183  | 14744 | Asn-3 to Gln-9.  |  | S0053: 2                         |  |  |
| HNHES11 | 967128 | 4993 | 92 - 268  | 14745 | Glu-1 to Pro-12,   |  | S0053: 2                         |  |  |

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| HNHES23 | 675946 | 4994 | 258 - 46  | 14746 | Pro-28 to Gly-37.<br>Lys-53 to Asn-64.                      | L0766: 4, L0789: 1, S0052:<br>1 and S0053: 1. |
| HNHES35 | 576497 | 4995 | 80 - 325  | 14747 | Pro-1 to Ala-7.   | S0053: 2                                      |
| HNHES56 | 881504 | 4996 | 91 - 393  | 14748 | Ile-86 to Ser-93.   | H0305: 1 and S0053: 1.                        |
| HNHES61 | 973297 | 4997 | 186 - 407 | 14749 | Asp-14 to Gln-23,<br>Arg-31 to Glu-38,<br>Ile-42 to Gln-47. | S0053: 2                                      |
| HNHES81 | 777979 | 4998 | 157 - 384 | 14750 | Leu-15 to Gly-28,<br>Val-44 to Cys-50.                      | S0053: 2                                      |
| HNHET11 | 967127 | 4999 | 216 - 371 | 14751 | Asp-14 to Phe-19,<br>Glu-34 to Asn-43.                      | S0053: 2                                      |
| HNHET17 | 576746 | 5000 | 110 - 322 | 14752 | Gly-31 to Gly-37,<br>Pro-39 to Ala-46,<br>Cys-50 to Glu-60. | S0052: 1 and S0053: 1.                        |
| HNHET24 | 860006 | 5001 | 90 - 338  | 14753 | Pro-49 to Asp-54,<br>Ser-65 to Trp-73.                      | S0053: 2                                      |
| HNHET25 | 953410 | 5002 | 63 - 362  | 14754 | Ser-29 to Tyr-40,<br>Ala-62 to Ala-85.                      | S0053: 2                                      |
| HNHET57 | 577360 | 5003 | 240 - 458 | 14755 |   | S0052: 1 and S0053: 1.                        |
| HNHEU50 | 724449 | 5004 | 78 - 254  | 14756 | Arg-25 to Asn-36.   | S0053: 2                                      |
| HNHEU60 | 576387 | 5005 | 2 - 253   | 14757 | Gln-19 to Gly-26.   | S0053: 2                                      |
| HNHEU71 | 574396 | 5006 | 111 - 290 | 14758 |   | S0053: 2                                      |
| HNHEV25 | 577111 | 5007 | 3 - 131   | 14759 | Cys-26 to Gln-35.   | S0053: 2                                      |
| HNHEV44 | 716661 | 5008 | 3 - 206   | 14760 |   | L0748: 2, H0402: 1, L0664:<br>1 and S0053: 1. |
| HNHEV46 | 577337 | 5009 | 3 - 182   | 14761 | Glu-22 to Gly-31.   | S0053: 2                                      |
| HNHEV49 | 575777 | 5010 | 108 - 308 | 14762 | Glu-30 to His-35.   | S0053: 2                                      |
| HNHEW03 | 924475 | 5011 | 116 - 298 | 14763 | Asp-1 to Ser-16,<br>Trp-43 to Ile-51.                       | S0052: 1, S0053: 1 and<br>H0444: 1.           |
| HNHEW14 | 658506 | 5012 | 31 - 336  | 14764 | Gln-13 to Gly-26.   | L0361: 2, S0428: 1 and<br>S0053: 1.           |
| HNHEW19 | 953446 | 5013 | 170 - 3   | 14765 |   | S0053: 2                                      |
| HNHEW21 | 670987 | 5014 | 69 - 197  | 14766 |   | S0053: 3                                      |
| HNHEW75 | 576361 | 5015 | 146 - 244 | 14767 |   | S0053: 2                                      |



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| HNHEW76 | 770081 | 5016 | 56 - 196  | 14768 |   |  |  | S0053: 2                                    |  |  |
| HNHEW95 | 953566 | 5017 | 3 - 257   | 14769 | His-1 to Arg-9,<br>Arg-47 to Cys-62.  |  |  | S0053: 2                                    |  |  |
| HNHEX12 | 970764 | 5018 | 168 - 374 | 14770 |   |  |  | S0053: 2                                    |  |  |
| HNHEX40 | 711225 | 5019 | 289 - 426 | 14771 | Cys-3 to Cys-12,<br>Gly-16 to Glu-26,<br>Leu-30 to Ile-36.                      |  |  | H0271: 1 and S0053: 1.                      |  |  |
| HNHEX54 | 575783 | 5020 | 1 - 267   | 14772 | Gly-1 to Gly-6,<br>Ala-15 to Gly-20,<br>Pro-31 to Arg-52,<br>Leu-79 to Gly-88.  |  |  | S0053: 2                                    |  |  |
| HNHEX66 | 860036 | 5021 | 101 - 424 | 14773 |   |  |  | S0053: 4                                    |  |  |
| HNHEX77 | 860037 | 5022 | 205 - 432 | 14774 | Pro-8 to Val-15,<br>Pro-53 to Gln-58.   |  |  | S0053: 3                                    |  |  |
| HNHEY59 | 959668 | 5023 | 3 - 191   | 14775 | Thr-19 to Cys-32.   |  |  | S0053: 2                                    |  |  |
| HNHEY63 | 575741 | 5024 | 263 - 397 | 14776 |   |  |  | S0053: 2                                    |  |  |
| HNHEY93 | 575745 | 5025 | 1 - 99    | 14777 |   |  |  | S0053: 2                                    |  |  |
| HNHEZ07 | 953438 | 5026 | 49 - 153  | 14778 | Leu-24 to Cys-29.   |  |  | H0318: 1 and S0053: 1.                      |  |  |
| HNHEZ18 | 575788 | 5027 | 3 - 104   | 14779 | Gln-3 to Lys-10,<br>Asp-18 to Leu-24.   |  |  | S0053: 2                                    |  |  |
| HNHEZ19 | 887442 | 5028 | 3 - 266   | 14780 | Pro-16 to Gln-21.   |  |  | AR054: 7, AR051: 1,<br>AR050: 0<br>S0053: 2 |  |  |
| HNHFA05 | 860033 | 5029 | 1 - 267   | 14781 | Ser-7 to Gly-22,<br>Trp-41 to Thr-48,<br>Pro-56 to Ser-65,<br>Gln-73 to Leu-82. |  |  | S0053: 1 and S0216: 1.                      |  |  |
| HNHFA11 | 967126 | 5030 | 179 - 361 | 14782 |   |  |  | H0305: 1 and S0053: 1.                      |  |  |
| HNHFA35 | 577302 | 5031 | 19 - 219  | 14783 | Thr-1 to Ala-12.  |  |  | S0053: 3                                    |  |  |
| HNHFA59 | 576394 | 5032 | 258 - 413 | 14784 |   |  |  | S0053: 2                                    |  |  |
| HNHFB09 | 575786 | 5033 | 200 - 430 | 14785 |   |  |  | S0053: 2                                    |  |  |
| HNHFB19 | 668713 | 5034 | 118 - 270 | 14786 |   |  |  | S0053: 1 and H0444: 1.                      |  |  |
| HNHFB27 | 576865 | 5035 | 86 - 427  | 14787 | Leu-5 to Pro-11.  |  |  | H0341: 1 and S0053: 1.                      |  |  |
| HNHFB32 | 836006 | 5036 | 274 - 444 | 14788 |   |  |  | S0053: 2                                    |  |  |
| HNHFB39 | 575740 | 5037 | 178 - 348 | 14789 | Pro-3 to Cys-26.  |  |  | S0053: 2                                    |  |  |
| hnhfb53 | 728265 | 5038 | 233 - 406 | 14790 |   |  |  | S0053: 2                                    |  |  |

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| HNHFC34 | 860027 | 5039 | 3 - 182   | 14791 | His-1 to Arg-10,<br>Asn-20 to Trp-37,<br>Arg-39 to Pro-47,<br>Glu-53 to Asn-60. | S0053: 2                                      |  |
| HNHFC43 | 583660 | 5040 | 277 - 104 | 14792 | Ile-3 to Val-11,<br>Pro-39 to Lys-45.   | S0052: 1 and S0053: 1.                        |  |
|         | 590226 | 9592 | 349 - 215 | 19344 |   |   |  |
|         | 973274 | 9593 | 484 - 771 | 19345 |   |   |  |
| HNHFC60 | 576438 | 5041 | 95 - 343  | 14793 |   | S0053: 2                                      |  |
| HNHFC61 | 577185 | 5042 | 72 - 242  | 14794 | Glu-10 to Val-32.   | S0053: 2                                      |  |
| HNHFC67 | 576385 | 5043 | 46 - 312  | 14795 | Lys-3 to Pro-9.   | S0053: 2                                      |  |
| HNHFC78 | 576435 | 5044 | 97 - 303  | 14796 | Ala-30 to Gly-43,<br>Ser-53 to Ala-66.  | S0053: 2                                      |  |
|         |        |      |           |       |   |   |  |
| HNHFC92 | 577240 | 5045 | 33 - 236  | 14797 |   | S0053: 2                                      |  |
| HNHFD46 | 576796 | 5046 | 122 - 382 | 14798 | Phe-4 to Gly-9,<br>Thr-29 to Gln-52.  | S0053: 2                                      |  |
| HNHFD88 | 506354 | 5047 | 2 - 358   | 14799 |   | S0052: 1 and S0053: 1.                        |  |
| HNHFE07 | 953585 | 5048 | 65 - 3    | 14800 |   | S0053: 2                                      |  |
| HNHFE40 | 576431 | 5049 | 148 - 336 | 14801 |   | S0053: 2                                      |  |
| HNHFE69 | 577244 | 5050 | 1 - 225   | 14802 |   | S0053: 2                                      |  |
| HNHFF08 | 860229 | 5051 | 434 - 607 | 14803 | Lys-24 to Lys-31.   | S0428: 4, S0116: 1, H0179:<br>1 and S0053: 1. |  |
| HNHFF21 | 625613 | 5052 | 239 - 340 | 14804 |   | S0053: 2                                      |  |
| HNHFF29 | 576412 | 5053 | 50 - 280  | 14805 | Arg-11 to Gly-19.   | S0053: 2                                      |  |
| HNHFF56 | 576432 | 5054 | 157 - 390 | 14806 | Pro-27 to Pro-32.   | S0053: 2                                      |  |
| HNHFG07 | 953569 | 5055 | 265 - 399 | 14807 | Leu-1 to Tyr-11.  | S0053: 2                                      |  |
| HNHFG11 | 967255 | 5056 | 59 - 283  | 14808 |   | S0053: 1 and H0444: 1.                        |  |
| HNHFG37 | 658459 | 5057 | 1 - 405   | 14809 | Lys-22 to Gly-37,<br>Thr-46 to Asp-51,<br>Arg-72 to Asp-77.                     | S0053: 2                                      |  |
| HNHFG94 | 720292 | 5058 | 129 - 341 | 14810 | Gly-1 to Trp-10,<br>Pro-13 to Pro-25.   | S0053: 1 and H0521: 1.                        |  |
| HNHFH21 | 575785 | 5059 | 252 - 590 | 14811 | Ala-26 to Phe-31,<br>Ala-35 to Gly-42.  | S0053: 2 and L0740: 1.                        |  |
| HNHFH56 | 575784 | 5060 | 1 - 177   | 14812 |   | S0053: 2                                      |  |

|         |        |      |           |       |   |                                     |  |
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| HNHFH78 | 773610 | 5061 | 142 - 399 | 14813 | Gly-8 to Trp-14.  | S0053: 2                            |  |
| HNHFI69 | 575747 | 5062 | 3 - 89    | 14814 | Lys-22 to Glu-29.   | S0053: 2                            |  |
| HNHFI88 | 575751 | 5063 | 3 - 182   | 14815 | Ala-40 to Ser-47.   | S0053: 2                            |  |
| HNHFI95 | 577328 | 5064 | 260 - 406 | 14816 |   | S0053: 2                            |  |
| HNHFI45 | 720757 | 5065 | 172 - 435 | 14817 | Glu-25 to Arg-31,<br>Arg-35 to Gly-41,<br>Asn-56 to Leu-61. | S0053: 2 and S0216: 1.              |  |
| HNHFI67 | 699523 | 5066 | 265 - 143 | 14818 | Asn-1 to Arg-10,<br>Asp-13 to Met-20.                       | S0053: 2, L0748: 1 and<br>L0758: 1. |  |
| HNHFK37 | 576386 | 5067 | 34 - 336  | 14819 | Asn-31 to Ser-37,<br>Ser-78 to Gly-97.                      | S0053: 3                            |  |
| HNHFK77 | 970770 | 5068 | 43 - 453  | 14820 | Glu-1 to Glu-9,<br>Val-14 to Gly-19,<br>Lys-25 to Thr-32.   | S0053: 3                            |  |
| HNHFL48 | 664588 | 5069 | 3 - 122   | 14821 | Val-6 to Ala-15.  | S0053: 2                            |  |
| HNHFL82 | 576428 | 5070 | 45 - 398  | 14822 | Leu-1 to Ser-9.   | S0053: 2                            |  |
| HNHFM01 | 916787 | 5071 | 178 - 303 | 14823 |   | S0053: 2                            |  |
| HNHFM32 | 577331 | 5072 | 14 - 358  | 14824 |   | S0053: 2                            |  |
| HNHFN30 | 691083 | 5073 | 80 - 220  | 14825 |   | S0053: 2                            |  |
| HNHFN52 | 727258 | 5074 | 1 - 165   | 14826 | Gly-1 to Gln-12.  | S0053: 2                            |  |
| HNHFN95 | 761672 | 5075 | 46 - 180  | 14827 |   | S0053: 2                            |  |
| HNHFO45 | 576408 | 5076 | 180 - 338 | 14828 | Val-1 to Gln-6.   | S0053: 2                            |  |
| HNHFO48 | 707311 | 5077 | 17 - 292  | 14829 | Gln-23 to His-32,<br>Pro-48 to Leu-55.                      | H0416: 1, S0053: 1 and<br>L0439: 1. |  |
| HNHFP09 | 860013 | 5078 | 85 - 279  | 14830 |   | S0053: 1 and S0216: 1.              |  |
| HNHFP10 | 964849 | 5079 | 284 - 430 | 14831 | Leu-20 to Gly-27.   | S0053: 2                            |  |
| HNHFP01 | 916773 | 5080 | 2 - 301   | 14832 | Ala-1 to Ala-6,<br>Ala-29 to Leu-40,<br>Ser-65 to Tyr-77.   | H0179: 1 and S0053: 1.              |  |
| HNHFP19 | 418108 | 5081 | 1 - 162   | 14833 | Trp-1 to Trp-6.   | S0053: 2                            |  |
| HNHFP30 | 692807 | 5082 | 1 - 285   | 14834 | Thr-7 to Cys-13.  | S0053: 2                            |  |
| HNHFP75 | 766595 | 5083 | 27 - 356  | 14835 |   | S0053: 2                            |  |
| HNHFP88 | 576398 | 5084 | 1 - 204   | 14836 | Thr-17 to Gly-25.   | S0053: 2                            |  |
| HNHFP92 | 576400 | 5085 | 111 - 1   | 14837 |   | S0053: 2                            |  |
| HNHFR12 | 860003 | 5086 | 127 - 315 | 14838 | Arg-1 to Gln-14,  | S0053: 2                            |  |

|         |        |      |           |       |   |                        |  |
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| HNHFR22 | 964716 | 5087 | 19 - 444  | 14839 | Gly-23 to Met-29.   |                        |  |
| HNHFR24 | 577330 | 5088 | 136 - 336 | 14840 | Arg-92 to Gly-98.   | S0052: 1 and S0053: 1. |  |
| HNHFR67 | 751787 | 5089 | 1 - 228   | 14841 | Lys-7 to Thr-13.  | S0053: 2               |  |
| HNHFS03 | 924610 | 5090 | 108 - 473 | 14842 | Thr-1 to Lys-11.  | S0053: 2               |  |
| HNHFS79 | 734798 | 5091 | 2 - 151   | 14843 | Thr-1 to Asp-10,<br>Arg-49 to Gln-55.                       | H0271: 1 and S0053: 1. |  |
| HNHFU09 | 625726 | 5092 | 191 - 406 | 14844 | Glu-4 to Glu-9,<br>Glu-11 to Ser-19,<br>Pro-24 to Cys-33.   | S0053: 2               |  |
| HNHFU35 | 707335 | 5093 | 184 - 312 | 14845 |   | S0053: 2               |  |
| HNHFU45 | 920844 | 5094 | 91 - 444  | 14846 |   | H0073: 1 and S0053: 1. |  |
| HNHFU57 | 860002 | 5095 | 1 - 171   | 14847 | Lys-9 to Gly-16.  | S0053: 2               |  |
| HNHFV16 | 952376 | 5096 | 77 - 373  | 14848 | Leu-14 to Asn-29,<br>Pro-45 to Arg-52,<br>Ala-58 to Gly-65. | S0053: 1 and S0216: 1. |  |
| HNHFV52 | 576390 | 5097 | 34 - 399  | 14849 |   | S0053: 2               |  |
| HNHFV56 | 724417 | 5098 | 281 - 475 | 14850 |   | S0052: 1 and S0053: 1. |  |
| HNHFV66 | 860000 | 5099 | 3 - 173   | 14851 | Asn-1 to Glu-24.  | S0053: 2               |  |
| HNHFV68 | 925820 | 5100 | 86 - 346  | 14852 |   | H0255: 2 and S0053: 1. |  |
| HNHFV70 | 757281 | 5101 | 150 - 329 | 14853 |   | S0053: 1 and S0216: 1. |  |
| HNHFW08 | 959476 | 5102 | 1 - 297   | 14854 | Glu-30 to Pro-50.   | S0053: 2               |  |
| HNHFW29 | 663912 | 5103 | 3 - 338   | 14855 | Pro-11 to Ala-16,<br>Ser-24 to Thr-34.                      | S0053: 2               |  |
| HNHFX22 | 674638 | 5104 | 3 - 131   | 14856 | Arg-17 to Val-26,<br>Asn-28 to Gly-35,<br>Arg-37 to Leu-42. | S0053: 2 and H0436: 2. |  |
| HNHFX35 | 668656 | 5105 | 3 - 356   | 14857 | His-1 to Gly-9,<br>Pro-23 to Gly-28,<br>Gln-66 to His-75.   | S0053: 2               |  |
| HNHFX56 | 716628 | 5106 | 1 - 237   | 14858 |   | S0053: 2               |  |
| HNHFX68 | 753045 | 5107 | 109 - 38  | 14859 |   | S0053: 2               |  |
| HNHFX70 | 756459 | 5108 | 62 - 370  | 14860 | Ser-53 to Asn-77.   | S0052: 1 and S0053: 1. |  |
| HNHFX89 | 712347 | 5109 | 258 - 425 | 14861 | Gln-8 to Ser-16.  | S0053: 2               |  |
| HNHFX21 | 670946 | 5110 | 2 - 169   | 14862 | Lys-18 to Tyr-35.   | S0053: 2               |  |

|         |        |      |           |       |  |   |                                     |  |  |
|---------|--------|------|-----------|-------|--|---|-------------------------------------|--|--|
| HNHFY95 | 734764 | 5111 | 24 - 164  | 14863 |  |   | S0053: 2                            |  |  |
| HNHGA24 | 967093 | 5112 | 200 - 373 | 14864 |  | Pro-4 to Lys-19.  | S0053: 2 and H0271: 1.              |  |  |
| HNHGA33 | 702461 | 5113 | 50 - 166  | 14865 |  | Lys-1 to Ile-6.   | S0053: 2                            |  |  |
| HNHGA46 | 719073 | 5114 | 1 - 156   | 14866 |  | Thr-45 to Lys-52.   | S0053: 3                            |  |  |
| HNHGB83 | 781205 | 5115 | 37 - 174  | 14867 |  |   | S0053: 2                            |  |  |
| HNHGB96 | 784362 | 5116 | 123 - 233 | 14868 |  |   | S0053: 2                            |  |  |
| HNHGC13 | 927065 | 5117 | 121 - 222 | 14869 |  |   | S0053: 1 and S0216: 1.              |  |  |
| HNHGC35 | 707337 | 5118 | 58 - 267  | 14870 |  | Phe-17 to Arg-22,<br>Tyr-31 to Ser-36,<br>Gly-55 to Arg-70.                     | H0421: 1 and S0053: 1.              |  |  |
| HNHGC41 | 711654 | 5119 | 3 - 224   | 14871 |  | His-1 to Lys-6,<br>Gly-24 to Ser-40,<br>Ser-53 to Arg-58,<br>Leu-68 to Ser-74.  | S0053: 2                            |  |  |
| HNHGC62 | 733745 | 5120 | 478 - 654 | 14872 |  |   | L0748: 4, S0053: 1 and<br>H0187: 1. |  |  |
| HNHGD07 | 953416 | 5121 | 1 - 420   | 14873 |  | Gly-1 to Gly-6,<br>Ser-11 to Pro-19.  | S0053: 2                            |  |  |
| HNHGD14 | 920149 | 5122 | 177 - 323 | 14874 |  | Tyr-12 to Phe-24.   | S0053: 2                            |  |  |
| HNHGD50 | 667930 | 5123 | 2 - 172   | 14875 |  | Pro-5 to Pro-17,<br>Pro-46 to Lys-51.   | S0053: 2                            |  |  |
| HNHGD51 | 934632 | 5124 | 105 - 281 | 14876 |  | Leu-3 to Arg-8.   | S0216: 2 and S0053: 1.              |  |  |
| HNHGD68 | 753053 | 5125 | 74 - 307  | 14877 |  |   | S0053: 2                            |  |  |
| HNHGD84 | 671077 | 5126 | 165 - 332 | 14878 |  |   | S0053: 2                            |  |  |
| HNHGE09 | 939727 | 5127 | 22 - 645  | 14879 |  | His-8 to Gly-18,<br>Glu-35 to Thr-41,<br>Arg-53 to Asp-59,<br>Glu-82 to Pro-94. | AR089: 1, AR061: 1<br>S0053: 2      |  |  |
| HNHGE27 | 683432 | 5128 | 322 - 197 | 14880 |  | Met-1 to Arg-6,<br>Asn-36 to Ala-42.  | S0052: 1 and S0053: 1.              |  |  |
| HNHGE43 | 715304 | 5129 | 65 - 325  | 14881 |  | Arg-46 to Lys-51.   | S0053: 1 and S0216: 1.              |  |  |
| HNHGE64 | 746605 | 5130 | 3 - 104   | 14882 |  | Thr-15 to Glu-21,<br>Ser-23 to Ser-32.  | S0053: 2                            |  |  |
| HNHGF14 | 835984 | 5131 | 13 - 387  | 14883 |  | Arg-6 to Pro-19.  | S0053: 2                            |  |  |
| HNHGF21 | 670956 | 5132 | 54 - 251  | 14884 |  | Arg-8 to Trp-14,<br>Arg-18 to Ala-23.   | S0053: 2                            |  |  |

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|---------|--------|------|-----------|-------|---|------------------------|--|--|
| HNHGF37 | 708708 | 5133 | 164 - 331 | 14885 | Leu-58 to Leu-63.   |                        |  |  |
| HNHGF45 | 859852 | 5134 | 70 - 384  | 14886 | Ala-23 to Gly-28.   | S0053: 2               |  |  |
| HNHGF46 | 705128 | 5135 | 21 - 425  | 14887 | Ser-28 to Glu-33.   | S0053: 1 and S0216: 1. |  |  |
|         |        |      |           |       | Leu-12 to Ser-33,<br>Ala-42 to Leu-48,<br>Ser-57 to Pro-65. | S0052: 1 and S0053: 1. |  |  |
| HNHGF85 | 761811 | 5136 | 2 - 208   | 14888 | Ala-7 to Ala-17,<br>Ser-32 to Gly-42,<br>Glu-61 to Lys-69.  | S0053: 1 and S0216: 1. |  |  |
| HNHGF90 | 730957 | 5137 | 2 - 280   | 14889 | Leu-62 to Pro-69.   | S0053: 2               |  |  |
| HNHGF91 | 750389 | 5138 | 276 - 431 | 14890 | Ala-40 to Thr-46.   | S0052: 1 and S0053: 1. |  |  |
| HNHGG06 | 935530 | 5139 | 146 - 310 | 14891 |   | S0053: 2 and L0748: 2. |  |  |
| HNHGG73 | 764446 | 5140 | 76 - 231  | 14892 |   | S0053: 2               |  |  |
| HNHGG76 | 746607 | 5141 | 1 - 198   | 14893 | Asp-53 to Trp-63.   | S0053: 3               |  |  |
| HNHGG89 | 772213 | 5142 | 73 - 303  | 14894 | Lys-12 to Arg-23.   | S0053: 2               |  |  |
| HNHGG93 | 792335 | 5143 | 22 - 195  | 14895 | Gly-30 to Phe-38.   | S0053: 1 and S0216: 1. |  |  |
| HNHGG95 | 760386 | 5144 | 1 - 411   | 14896 | Arg-53 to Gln-62,<br>Pro-79 to Ser-84.                      | S0053: 2               |  |  |
| HNHGH02 | 920147 | 5145 | 3 - 257   | 14897 | His-1 to Arg-9,<br>Pro-44 to Gln-49.                        | S0052: 1 and S0053: 1. |  |  |
| HNHGH20 | 959499 | 5146 | 2 - 241   | 14898 | Val-22 to His-42,<br>Arg-57 to His-62,<br>His-75 to Arg-80. | S0053: 2               |  |  |
| HNHGH42 | 713036 | 5147 | 2 - 175   | 14899 | Gly-26 to Gly-37.   | S0053: 3               |  |  |
| HNHGI35 | 707336 | 5148 | 124 - 303 | 14900 | Pro-18 to Arg-27.   | S0053: 2               |  |  |
| HNHGI79 | 775218 | 5149 | 3 - 143   | 14901 | Asp-13 to Trp-23.   | S0053: 2               |  |  |
| HNHGI81 | 576279 | 5150 | 157 - 345 | 14902 |   | S0052: 2 and S0053: 1. |  |  |
| HNHGI03 | 968076 | 5151 | 1 - 225   | 14903 | Phe-69 to Ile-75.   | S0053: 1 and S0216: 1. |  |  |
| HNHGI09 | 625624 | 5152 | 193 - 312 | 14904 | Ser-1 to Trp-9,<br>Pro-15 to Glu-26.                        | S0053: 2               |  |  |
| HNHGI20 | 668916 | 5153 | 173 - 397 | 14905 | Cys-4 to Leu-10,<br>Pro-12 to Gly-21,<br>Ile-31 to Asn-38.  | S0053: 2               |  |  |
| HNHGI28 | 686733 | 5154 | 96 - 323  | 14906 | Glu-34 to Thr-42.   | S0053: 3               |  |  |
| HNHGI39 | 850088 | 5155 | 3 - 167   | 14907 | Ala-1 to Leu-8.   | H0402: 1 and S0053: 1. |  |  |

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| HNHGH65  | 750269 | 5156 | 146 - 418 | 14908 | Gly-26 to Ala-42,<br>Thr-51 to Gly-58.   | S0053: 2               |               |  |
| HNHGH81  | 777958 | 5157 | 172 - 402 | 14909 | Gln-12 to Ser-17.  | S0053: 2               |               |  |
| HNHGHK05 | 935525 | 5158 | 111 - 260 | 14910 |  | S0053: 2               |               |  |
| HNHGHK24 | 783674 | 5159 | 117 - 335 | 14911 | His-2 to Gln-8,<br>Pro-67 to Ala-73.   | S0053: 1 and S0216: 1. |               |  |
| HNHGHK70 | 728593 | 5160 | 2 - 421   | 14912 |  | S0053: 2               | 19q13.3-q13.4 | 113900, 126340,<br>126391, 130410,<br>134790, 138570,<br>160900, 173850,<br>191044, 258501,<br>600040, 600138,<br>602225, 602225 |
| HNHGN17  | 663923 | 5161 | 139 - 273 | 14913 |  | S0052: 1 and S0053: 1. |               |  |
| HNHGO21  | 670955 | 5162 | 2 - 289   | 14914 | Pro-45 to Glu-59,<br>Gly-66 to Leu-73.   | S0053: 2               |               |  |
| HNHGO65  | 750267 | 5163 | 3 - 92    | 14915 |  | S0053: 2               |               |  |
| HNHGO68  | 732370 | 5164 | 106 - 324 | 14916 | Arg-1 to Gly-9,<br>Arg-17 to His-29,<br>Met-40 to Arg-47,<br>His-51 to Pro-61. | S0053: 2               |               |  |
| HNHGP08  | 859964 | 5165 | 2 - 97    | 14917 | Arg-2 to Leu-11.   | S0053: 2               |               |  |
| HNHGP31  | 698047 | 5166 | 3 - 284   | 14918 | Ser-9 to Leu-15,<br>His-57 to Cys-64,<br>Glu-84 to Arg-94.                     | S0053: 2               |               |  |
| HNHGP32  | 699292 | 5167 | 161 - 268 | 14919 | Gln-1 to Glu-6,<br>Arg-20 to Met-25.   | S0053: 2               |               |  |
| HNHGP40  | 916551 | 5168 | 233 - 391 | 14920 | Ile-17 to Pro-26.  | S0053: 2               |               |  |
| HNHGP73  | 934446 | 5169 | 8 - 163   | 14921 |  | S0053: 1 and S0216: 1. |               |  |
| HNHGP83  | 780328 | 5170 | 65 - 346  | 14922 | Pro-31 to Gly-43,<br>Leu-48 to Asn-57,<br>Lys-87 to Ser-94.                    | S0053: 1 and S0216: 1. |               |  |
| HNHGHQ02 | 920146 | 5171 | 129 - 404 | 14923 | Gln-35 to Gly-46,<br>Ser-54 to Phe-59,<br>Val-64 to Gly-74.                    | S0053: 3               |               |  |
| HNHGHQ25 | 678151 | 5172 | 250 - 447 | 14924 |  | S0053: 2               |               |  |

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| HNHGQ28 | 859965 | 5173 | 52 - 447  | 14925 | Thr-58 to Cys-63,<br>Ala-99 to Ser-104.  | S0053: 2               |  |  |
| HNHGQ49 | 573340 | 5174 | 280 - 471 | 14926 | Met-37 to Gln-44.  | S0053: 2               |  |  |
| HNHGQ79 | 562748 | 5175 | 342 - 500 | 14927 | Leu-22 to His-33,<br>Ala-46 to Leu-53.   | S0053: 2               |  |  |
|         | 581933 | 9594 | 348 - 506 | 19346 | Leu-22 to His-33,<br>Ala-46 to Leu-53.   |                        |  |  |
| HNHGR35 | 698501 | 5176 | 147 - 329 | 14928 | Phe-4 to Ile-17.   | S0053: 2               |  |  |
| HNHGR43 | 918711 | 5177 | 108 - 314 | 14929 |  | S0053: 1 and S0216: 1. |  |  |
| HNHGS34 | 706671 | 5178 | 97 - 435  | 14930 | Gly-63 to Gln-69,<br>Asp-84 to Ser-89,<br>Val-103 to Asn-112.                    | S0053: 2               |  |  |
| HNHGT37 | 708706 | 5179 | 3 - 275   | 14931 |  | S0053: 2               |  |  |
| HNHGT51 | 859962 | 5180 | 146 - 367 | 14932 | Leu-6 to Gln-15.   | S0053: 2               |  |  |
| HNHGT64 | 725710 | 5181 | 122 - 328 | 14933 | Asn-1 to Leu-6.  | S0053: 2               |  |  |
| HNHGT74 | 765602 | 5182 | 71 - 445  | 14934 |  | S0053: 2               |  |  |
| HNHGU19 | 668693 | 5183 | 179 - 421 | 14935 |  | S0053: 2               |  |  |
| HNHGU41 | 791822 | 5184 | 362 - 499 | 14936 |  | S0053: 1 and S0216: 1. |  |  |
| HNHGU44 | 716634 | 5185 | 61 - 264  | 14937 |  | S0053: 2               |  |  |
| HNHGU84 | 783041 | 5186 | 18 - 56   | 14938 |  | S0053: 2               |  |  |
| HNHGU89 | 761837 | 5187 | 161 - 355 | 14939 | Ser-4 to Pro-11.   | S0053: 2 and S0216: 1. |  |  |
| HNHGV18 | 666473 | 5188 | 198 - 329 | 14940 |  | S0053: 2               |  |  |
| HNHGV22 | 674653 | 5189 | 1 - 195   | 14941 | Gly-1 to His-36.   | S0053: 2               |  |  |
| HNHGV29 | 421819 | 5190 | 2 - 322   | 14942 | Pro-35 to Leu-48.  | S0053: 2               |  |  |
| HNHGV45 | 754053 | 5191 | 3 - 287   | 14943 | His-1 to Lys-8.  | S0053: 2               |  |  |
| HNHGV91 | 706695 | 5192 | 266 - 379 | 14944 |  | S0053: 2               |  |  |
| HNHGX33 | 496224 | 5193 | 23 - 262  | 14945 | Thr-1 to Ser-6,<br>Pro-28 to Trp-37,<br>Phe-51 to Ile-61.                        | S0053: 2               |  |  |
| HNHGX40 | 687120 | 5194 | 113 - 358 | 14946 |  | S0053: 2               |  |  |
| HNHGX41 | 711657 | 5195 | 384 - 614 | 14947 |  | S0052: 1 and S0053: 1. |  |  |
| HNHGX52 | 727175 | 5196 | 47 - 385  | 14948 | Pro-16 to Arg-25,<br>Gln-31 to Pro-36,<br>Ser-65 to Arg-75,<br>Glu-77 to Val-82. | S0053: 2               |  |  |



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| HNHGX55  | 683523 | 5197 | 71 - 310  | 14949 | Phe-30 to Asp-36.                      | S0053: 2                                      |  |
| HNHGX83  | 781196 | 5198 | 3 - 251   | 14950 |  | S0053: 1 and S0216: 1.                        |  |
| HNHGY13  | 657253 | 5199 | 143 - 334 | 14951 |  | S0053: 2                                      |  |
| HNHGY17  | 663921 | 5200 | 108 - 281 | 14952 | Asp-1 to Pro-8,<br>Leu-29 to Asp-35.   | S0053: 2                                      |  |
| HNHGY18  | 859951 | 5201 | 175 - 423 | 14953 | Pro-22 to His-39,<br>Val-41 to Gly-48. | S0053: 2                                      |  |
| HNHGY19  | 835531 | 5202 | 2 - 349   | 14954 | Asp-21 to Ser-27,<br>Ser-76 to Ser-85. | S0053: 2                                      |  |
| HNHGY26  | 859949 | 5203 | 20 - 205  | 14955 | Arg-6 to Cys-12,<br>Leu-56 to Met-62.  | S0053: 2 and S0216: 1.                        |  |
| HNHGY29  | 690666 | 5204 | 87 - 368  | 14956 | Arg-19 to Pro-33,<br>Pro-39 to Ser-54. | H0271: 1 and S0053: 1.                        |  |
| HNHGY42  | 713797 | 5205 | 1 - 243   | 14957 | Leu-46 to Gln-55.                      | S0053: 2                                      |  |
| HNHGY47  | 720360 | 5206 | 45 - 374  | 14958 | Asp-10 to Trp-15.                      | S0053: 2 and L0476: 1.                        |  |
| HNHGY79  | 775209 | 5207 | 2 - 199   | 14959 | Ala-1 to Lys-7,<br>Leu-18 to Gln-35.   | S0053: 2                                      |  |
| HNHGY86  | 785516 | 5208 | 129 - 1   | 14960 |  | S0053: 2                                      |  |
| HNHGY91  | 840129 | 5209 | 209 - 433 | 14961 | Gly-2 to Asn-11.                       | S0428: 1 and S0053: 1.                        |  |
| HNHGG36  | 708131 | 5210 | 2 - 85    | 14962 | Ala-14 to Val-28.                      | S0053: 2                                      |  |
| HNHGGZ63 | 742594 | 5211 | 209 - 421 | 14963 |  | S0052: 1 and S0053: 1.                        |  |
| HNHHA21  | 496227 | 5212 | 3 - 278   | 14964 | Gly-59 to Asp-78.                      | S0053: 2                                      |  |
| HNHHA32  | 669915 | 5213 | 2 - 280   | 14965 |  | H0271: 1 and S0053: 1.                        |  |
| HNHHA37  | 708709 | 5214 | 2 - 166   | 14966 | Pro-45 to Gln-54.                      | S0053: 2                                      |  |
| HNHHA68  | 753047 | 5215 | 258 - 497 | 14967 |  | S0053: 1 and S0216: 1.                        |  |
| HNHHA91  | 790198 | 5216 | 45 - 284  | 14968 | Lys-14 to Cys-19.                      | S0053: 1 and S0216: 1.                        |  |
| HNHHA11  | 964993 | 5217 | 61 - 159  | 14969 | Asp-10 to Gly-18.                      | S0053: 2                                      |  |
| HNHHA12  | 970719 | 5218 | 107 - 247 | 14970 | Thr-6 to Ser-20.                       | S0053: 2                                      |  |
| HNHHA24  | 677224 | 5219 | 141 - 332 | 14971 |  | S0053: 2                                      |  |
| HNHHA64  | 702697 | 5220 | 354 - 614 | 14972 | Lys-16 to Ser-31.                      | S0052: 1, S0053: 1, H0521:<br>1 and L0752: 1. |  |
| HNHHC12  | 967088 | 5221 | 95 - 304  | 14973 | Met-6 to Gln-13,<br>Arg-15 to Trp-20.  | S0053: 2                                      |  |
| HNHHC17  | 860117 | 5222 | 83 - 316  | 14974 |  | S0053: 3                                      |  |
| HNHHC29  | 713800 | 5223 | 1 - 180   | 14975 |  | S0053: 3 and L0589: 2.                        |  |

|          |        |      |           |       |  |                        |  |
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| HNHHC33  | 699291 | 5224 | 100 - 186 | 14976 |  | S0053: 2               |  |
| HNHHC36  | 707340 | 5225 | 159 - 37  | 14977 | Cys-1 to Ile-11.   | S0053: 3               |  |
| HNHHC46  | 719068 | 5226 | 1 - 252   | 14978 | Gln-14 to Met-19.  | S0053: 2               |  |
| HNHHC58  | 736069 | 5227 | 3 - 239   | 14979 |  | S0053: 2               |  |
| HNHHC83  | 781197 | 5228 | 35 - 439  | 14980 | Asp-1 to Ala-6,<br>Pro-23 to Leu-30.                       | S0053: 2               |  |
| HNHHD35  | 707338 | 5229 | 41 - 190  | 14981 | Ser-38 to Ser-48.  | S0053: 2               |  |
| HNHHD61  | 741837 | 5230 | 153 - 419 | 14982 | Lys-21 to Pro-41.  | S0053: 3               |  |
| HNHHD67  | 751663 | 5231 | 152 - 319 | 14983 | Thr-30 to Pro-40.  | S0053: 3               |  |
| HNHHD82  | 779893 | 5232 | 223 - 405 | 14984 | Met-6 to Arg-12.   | S0053: 3               |  |
| HNHHE07  | 953408 | 5233 | 33 - 290  | 14985 | Leu-11 to Glu-17.  | S0053: 2               |  |
| HNHHE48  | 630223 | 5234 | 100 - 312 | 14986 |  | S0053: 2               |  |
| HNHHE63  | 745100 | 5235 | 1 - 198   | 14987 | Gly-1 to Arg-9,<br>Ser-28 to Trp-33.                       | S0053: 2               |  |
| HNHHE80  | 774041 | 5236 | 35 - 205  | 14988 |  | S0053: 2               |  |
| HNHHEF01 | 916546 | 5237 | 3 - 320   | 14989 | Asp-1 to Asn-10,<br>Gly-18 to Trp-23,<br>Gly-25 to Ser-33. | S0053: 2               |  |
| HNHHEF33 | 698502 | 5238 | 1 - 261   | 14990 | Gly-1 to Ala-12,<br>Pro-14 to Gly-21.                      | S0053: 2               |  |
| HNHHEF51 | 698490 | 5239 | 43 - 240  | 14991 | Ala-1 to Pro-25.   | S0053: 3               |  |
| HNHHEF56 | 496204 | 5240 | 2 - 217   | 14992 | Tyr-7 to Phe-24.   | S0053: 2               |  |
| HNHHEF58 | 859946 | 5241 | 80 - 247  | 14993 |  | S0053: 3               |  |
| HNHHEF63 | 745095 | 5242 | 68 - 373  | 14994 | Pro-35 to Gly-43.  | S0053: 1 and S0216: 1. |  |
| HNHHEF79 | 775205 | 5243 | 59 - 184  | 14995 |  | S0053: 3               |  |
| HNHHEF96 | 796402 | 5244 | 144 - 1   | 14996 |  | S0053: 3               |  |
| HNHHG47  | 720361 | 5245 | 41 - 292  | 14997 | Pro-25 to Pro-31.  | S0053: 3               |  |
| HNHHG50  | 724411 | 5246 | 2 - 247   | 14998 |  | S0053: 2               |  |
| HNHHG65  | 750266 | 5247 | 61 - 249  | 14999 |  | S0053: 2               |  |
| HNHHH13  | 657251 | 5248 | 56 - 223  | 15000 | Ala-1 to Cys-9,<br>Pro-51 to Ser-56.                       | S0053: 4               |  |
| HNHHH42  | 713796 | 5249 | 28 - 225  | 15001 |  | S0053: 2               |  |
| HNHHH57  | 734793 | 5250 | 134 - 313 | 15002 |  | S0053: 2               |  |
| HNHHI10  | 964659 | 5251 | 3 - 188   | 15003 |  | S0052: 1 and S0053: 1. |  |
| HNHHI28  | 859941 | 5252 | 1 - 351   | 15004 | Gly-1 to Gly-18,   | S0053: 2               |  |

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|---------|--------|------|-----------|-------|---|--|--|--|--|
|         |        |      |           |       | Asn-49 to Asn-72,<br>Gly-86 to Gln-98.  |  |  |  |  |
| HNHHI34 | 706699 | 5253 | 37 - 171  | 15005 | Arg-17 to Thr-24.   |  |  | S0053: 2   |  |
| HNHHI36 | 708132 | 5254 | 213 - 440 | 15006 | Glu-13 to Ser-20,<br>Gln-42 to Thr-52.  |  |  | S0140: 1 and S0053: 1.   |  |
| HNHHI65 | 750263 | 5255 | 171 - 386 | 15007 | Ile-3 to Lys-9,<br>Leu-26 to Cys-31,<br>Cys-39 to Gly-47.                       |  |  | S0053: 2   |  |
| HNHHI72 | 510619 | 5256 | 72 - 689  | 15008 | Thr-7 to Arg-18,<br>Arg-42 to Leu-48,<br>Arg-51 to Arg-59,<br>Pro-61 to Ala-73. |  |  | S0052: 1 and S0053: 1.   |  |
| HNHHK06 | 935517 | 5257 | 192 - 431 | 15009 | Glu-16 to Tyr-25,<br>Gln-69 to Thr-76.  |  |  | H0635: 1, H0063: 1 and<br>S0053: 1.                                  |  |
| HNHHK39 | 937598 | 5258 | 142 - 300 | 15010 | Arg-15 to Leu-23,<br>Lys-30 to Gln-53.  |  |  | S0053: 4   |  |
| HNHHK46 | 718081 | 5259 | 1 - 150   | 15011 | Gly-1 to Thr-30.  |  |  | S0053: 2 and S0216: 1.   |  |
| HNHHK62 | 741835 | 5260 | 1 - 228   | 15012 | Pro-23 to Leu-30.   |  |  | S0053: 2   |  |
| HNHHK74 | 765601 | 5261 | 193 - 336 | 15013 |   |  |  | S0053: 2   |  |
| HNHHK84 | 781980 | 5262 | 226 - 363 | 15014 |   |  |  | S0053: 2   |  |
| HNHHK93 | 792326 | 5263 | 370 - 561 | 15015 | Leu-1 to Gln-14.  |  |  | S0053: 2 and S0216: 1.   |  |
| HNHHL22 | 674617 | 5264 | 164 - 310 | 15016 | Arg-12 to Leu-19.   |  |  | S0053: 2   |  |
| HNHHL70 | 757201 | 5265 | 107 - 322 | 15017 | Arg-9 to Phe-15.  |  |  | S0053: 3   |  |
| HNHHL74 | 765598 | 5266 | 53 - 181  | 15018 |   |  |  | S0053: 2   |  |
| HNHHL92 | 756587 | 5267 | 3 - 134   | 15019 | His-1 to Tyr-7,<br>Thr-11 to Ser-17,<br>Leu-33 to Cys-39.                       |  |  | S0053: 1 and S0216: 1.   |  |
| HNHHM10 | 964656 | 5268 | 76 - 207  | 15020 |   |  |  | S0053: 2   |  |
| HNHHM17 | 661964 | 5269 | 2 - 130   | 15021 | Pro-12 to Cys-20,<br>Ser-23 to Asn-31.  |  |  | S0053: 2   |  |
| HNHHM25 | 678144 | 5270 | 76 - 285  | 15022 |   |  |  | S0053: 2   |  |
| HNHHM28 | 575451 | 5271 | 271 - 149 | 15023 |   |  |  | L0666: 2, L0717: 1, H0057:<br>1, L0659: 1, S0053: 1 and<br>L0748: 1. |  |
| HNHHM35 | 706667 | 5272 | 158 - 334 | 15024 | Asn-9 to Cys-16,<br>Pro-19 to Ser-31,   |  |  | S0053: 2   |  |

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|---------|--------|------|-----------|-------|---|------------------------|--|--|
| HNHHM37 | 708715 | 5273 | 20 - 160  | 15025 | Asn-45 to Val-53.<br>Leu-17 to Leu-25,<br>Asn-42 to Gly-47. | S0053: 3               |  |  |
| HNHHM52 | 727166 | 5274 | 87 - 203  | 15026 |   | S0053: 2               |  |  |
| HNHHM55 | 694373 | 5275 | 69 - 377  | 15027 | Val-17 to Ala-22,<br>Pro-49 to Ser-55.                      | S0053: 4 and L0592: 1. |  |  |
| HNHHM70 | 757202 | 5276 | 140 - 259 | 15028 |   | S0053: 2               |  |  |
| HNHHM80 | 880776 | 5277 | 46 - 285  | 15029 | Ser-17 to Gly-23.   | S0053: 4               |  |  |
| HNHHN03 | 920129 | 5278 | 159 - 362 | 15030 |   | S0053: 2 and S0428: 1. |  |  |
| HNHHN07 | 953393 | 5279 | 109 - 285 | 15031 |   | S0053: 2               |  |  |
| HNHHN11 | 964657 | 5280 | 3 - 254   | 15032 |   | S0053: 3               |  |  |
| HNHHN19 | 668681 | 5281 | 71 - 268  | 15033 | Gln-1 to Asp-7,<br>Pro-13 to Pro-18,<br>Ser-34 to Ser-43.   | S0053: 3               |  |  |
| HNHHN31 | 698035 | 5282 | 1 - 117   | 15034 | Pro-9 to Gly-23,<br>Pro-27 to Thr-39.                       | S0053: 2               |  |  |
| HNHHN62 | 745700 | 5283 | 1 - 150   | 15035 |   | S0053: 2               |  |  |
| HNHHN93 | 751659 | 5284 | 203 - 358 | 15036 | Arg-24 to Ser-32,<br>Pro-35 to Ser-42.                      | S0053: 6               |  |  |
| HNHHO08 | 953398 | 5285 | 214 - 330 | 15037 |   | S0053: 3               |  |  |
| HNHHO15 | 424836 | 5286 | 2 - 169   | 15038 | Asn-17 to Asn-28.   | S0053: 2               |  |  |
| HNHHO49 | 722991 | 5287 | 101 - 280 | 15039 |   | S0053: 2               |  |  |
| HNHHO66 | 727167 | 5288 | 77 - 259  | 15040 | Ile-1 to Arg-10.  | S0053: 2               |  |  |
| HNHHO79 | 774038 | 5289 | 1 - 159   | 15041 |   | S0053: 4               |  |  |
| HNHHP02 | 920120 | 5290 | 2 - 142   | 15042 | Arg-25 to Gly-32.   | S0053: 2               |  |  |
| HNHHP04 | 935501 | 5291 | 26 - 241  | 15043 |   | S0053: 5               |  |  |
| HNHHP16 | 661962 | 5292 | 91 - 357  | 15044 | His-4 to Gly-9,<br>Ser-13 to Arg-19,<br>Thr-27 to Glu-32.   | S0053: 2               |  |  |
| HNHHR04 | 935502 | 5293 | 13 - 129  | 15045 |   | S0053: 4               |  |  |
| HNHHR46 | 720358 | 5294 | 137 - 346 | 15046 | Arg-20 to Ala-26,<br>Gly-28 to Thr-35,<br>Ala-43 to Pro-55. | S0053: 4               |  |  |
| HNHHR61 | 741830 | 5295 | 75 - 230  | 15047 | Pro-32 to Arg-38.   | S0053: 2               |  |  |
| HNHHR93 | 775194 | 5296 | 65 - 235  | 15048 |   | S0053: 3               |  |  |

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| HNHHS46 | 956186 | 5297 | 514 - 684 | 15049 | Leu-52 to Cys-57.   | S0053: 2, S0114: 1, S0116: 1, H0580: 1, H0179: 1, H0271: 1, H0090: 1, H0264: 1, L0805: 1, L0527: 1 and L0367: 1. |  |  |
| HNHHS74 | 765584 | 5298 | 124 - 420 | 15050 | Arg-3 to Ser-11.  | S0053: 3   |  |  |
| HNHHS76 | 788913 | 5299 | 188 - 313 | 15051 | Thr-8 to Gly-16,<br>Pro-19 to Asn-29,<br>Gln-36 to Asn-42.                    | S0053: 3   |  |  |
| HNHHS79 | 775192 | 5300 | 18 - 131  | 15052 |   | S0053: 2 and S0216: 1.   |  |  |
| HNHHT35 | 707342 | 5301 | 30 - 404  | 15053 | Ser-8 to Gln-13.  | S0053: 2   |  |  |
| HNHHT55 | 465438 | 5302 | 3 - 431   | 15054 | Asn-6 to Thr-11,<br>His-35 to Ala-41.   | S0053: 2   |  |  |
| HNHHT70 | 783033 | 5303 | 2 - 193   | 15055 | Ala-3 to Lys-17,<br>Ser-41 to Gly-50.   | S0053: 2   |  |  |
| HNHHU46 | 465395 | 5304 | 3 - 287   | 15056 | Ser-1 to Glu-6,<br>Glu-9 to Leu-14,<br>Asn-39 to Asn-46,<br>Pro-65 to His-71. | S0053: 2   |  |  |
| HNHHW01 | 859935 | 5305 | 55 - 420  | 15057 | Asn-60 to Leu-66,<br>Pro-70 to Val-93,<br>Ile-101 to Leu-107.                 | S0053: 2   |  |  |
| HNHHW32 | 699255 | 5306 | 100 - 207 | 15058 |   | S0053: 2   |  |  |
| HNHHW58 | 739288 | 5307 | 3 - 203   | 15059 | Ala-30 to Gln-39,<br>Gly-57 to Thr-67.  | S0053: 2   |  |  |
| HNHHW61 | 742071 | 5308 | 1 - 159   | 15060 |   | S0053: 2   |  |  |
| HNHHW73 | 765588 | 5309 | 103 - 201 | 15061 |   | S0053: 2   |  |  |
| HNHIA02 | 920094 | 5310 | 2 - 496   | 15062 | Pro-19 to Ala-25,<br>Ala-53 to Pro-64,<br>Arg-71 to Cys-77.                   | S0053: 2   |  |  |
| HNHIA16 | 661931 | 5311 | 1 - 237   | 15063 | Gly-13 to Lys-20,<br>Cys-32 to Tyr-49,<br>Glu-60 to Thr-70.                   | S0053: 2   |  |  |
| HNHIA20 | 669685 | 5312 | 64 - 195  | 15064 | Arg-20 to Leu-38.   | S0053: 5   |  |  |
| HNHIA34 | 706675 | 5313 | 204 - 10  | 15065 |   | S0053: 2   |  |  |
| HNHIA58 | 736046 | 5314 | 117 - 272 | 15066 | Glu-1 to Gly-8.   | S0053: 2   |  |  |

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| HNHIA64 | 745861 | 5315 | 112 - 360 | 15067 |   | S0053: 2                                    |         |                           |
| HNHIA73 | 559344 | 5316 | 10 - 270  | 15068 | Ser-71 to Leu-76.   | AR054: 9, AR051: 8,<br>AR050: 8<br>S0053: 2 |         |                           |
|         | 888195 | 9595 | 11 - 298  | 19347 | Ser-71 to Leu-76.   |   |         |                           |
| HNHIA94 | 970720 | 5317 | 56 - 217  | 15069 | Glu-35 to Gly-47.   | S0053: 2                                    |         |                           |
| HNHIA95 | 908419 | 5318 | 46 - 399  | 15070 | Lys-8 to Pro-14,<br>Asn-47 to Cys-52.   | AR089: 7, AR061: 6<br>S0053: 4              |         |                           |
| HNHIB22 | 967038 | 5319 | 2 - 169   | 15071 | Glu-18 to Cys-24.   | S0053: 4                                    |         |                           |
| HNHIB56 | 734763 | 5320 | 1 - 207   | 15072 | Gly-1 to Gln-8,<br>Gly-21 to Pro-28.  | S0053: 2                                    |         |                           |
| HNHIB77 | 781214 | 5321 | 1 - 363   | 15073 |   | S0053: 2 and S0052: 1.                      |         |                           |
| HNHIB94 | 793210 | 5322 | 14 - 238  | 15074 | Ala-55 to Asp-69.   | S0053: 3                                    |         |                           |
| HNHIC39 | 705375 | 5323 | 271 - 423 | 15075 | Arg-11 to Ser-17.   | S0053: 2                                    |         |                           |
| HNHIC46 | 842003 | 5324 | 243 - 434 | 15076 | Trp-1 to Lys-10.  | H0416: 1 and S0053: 1.                      |         |                           |
| HNHIC96 | 779876 | 5325 | 148 - 384 | 15077 | Pro-41 to Trp-46.   | S0053: 2                                    |         |                           |
| HNHID29 | 690646 | 5326 | 37 - 243  | 15078 | Pro-31 to Tyr-39.   | S0053: 2                                    |         |                           |
| HNHID53 | 727151 | 5327 | 155 - 409 | 15079 | Pro-38 to Pro-43.   | S0053: 2                                    |         |                           |
| HNHID55 | 731761 | 5328 | 92 - 268  | 15080 | Lys-19 to Tyr-25,<br>Gln-48 to Glu-58.  | S0053: 3                                    |         |                           |
| HNHID79 | 774044 | 5329 | 3 - 371   | 15081 | Gly-16 to Arg-22,<br>Thr-53 to Ala-61.  | S0053: 2                                    |         |                           |
| HNHIE75 | 765585 | 5330 | 13 - 204  | 15082 | Gln-22 to Gly-28.   | S0053: 2                                    |         |                           |
| HNHIE82 | 921945 | 5331 | 217 - 666 | 15083 | Gly-1 to Ile-6,<br>Pro-14 to Pro-19.  | S0053: 3, L0365: 1 and<br>S0052: 1.         |         |                           |
| HNHIG01 | 916503 | 5332 | 2 - 244   | 15084 | Arg-2 to Pro-9,<br>Ser-11 to Lys-26,<br>Ser-35 to Thr-50,<br>Phe-74 to Asp-81.                      | S0053: 2                                    |         |                           |
| HNHIG13 | 465404 | 5333 | 2 - 181   | 15085 |   | S0053: 3                                    | 16p11.2 | 147781, 172471,<br>182381 |
| HNHIG19 | 668657 | 5334 | 3 - 431   | 15086 | Glu-2 to Gln-9,<br>Ala-20 to Trp-27,<br>Ser-44 to Ala-51,<br>Pro-64 to Ser-69,<br>Ala-76 to Pro-81. | S0053: 2                                    |         |                           |

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| HNHIG37  | 708713 | 5335 | 31 - 285  | 15087 | Asn-39 to Arg-44.   | S0053: 3                       |  |
| HNHIG68  | 753025 | 5336 | 284 - 412 | 15088 |   | S0053: 2                       |  |
| HNHIG71  | 465407 | 5337 | 36 - 371  | 15089 | Pro-78 to Arg-92.   | S0053: 2                       |  |
| HNHII23  | 675262 | 5338 | 2 - 244   | 15090 | Asn-10 to Cys-17,<br>Pro-19 to Arg-27,<br>Glu-39 to Pro-45. | S0053: 3                       |  |
| HNHII27  | 681727 | 5339 | 122 - 331 | 15091 | His-37 to Lys-43.   | S0053: 2                       |  |
| HNHII29  | 689891 | 5340 | 16 - 195  | 15092 | Glu-11 to His-22,<br>Pro-31 to Gln-38.                      | S0053: 2                       |  |
| HNHII46  | 720333 | 5341 | 128 - 415 | 15093 |   | S0053: 2                       |  |
| HNHII58  | 739290 | 5342 | 70 - 222  | 15094 | Arg-8 to Lys-16,<br>Pro-40 to Arg-51.                       | S0053: 2                       |  |
| HNHII66  | 684531 | 5343 | 34 - 174  | 15095 |   | H0271: 1 and S0053: 1.         |  |
| HNHII71  | 760371 | 5344 | 179 - 325 | 15096 | Trp-24 to Ser-32.   | S0053: 2                       |  |
| HNHII73  | 765591 | 5345 | 3 - 236   | 15097 | His-1 to Trp-10.  | S0053: 2                       |  |
| HNHII82  | 779874 | 5346 | 84 - 257  | 15098 |   | S0053: 3                       |  |
| HNHII96  | 734114 | 5347 | 153 - 422 | 15099 |   | S0053: 1 and S0216: 1.         |  |
| HNHII84  | 775407 | 5348 | 100 - 246 | 15100 |   | S0053: 2                       |  |
| HNHIS14  | 967087 | 5349 | 1 - 141   | 15101 |   | S0053: 3                       |  |
| HNHIV95  | 795877 | 5350 | 69 - 290  | 15102 |   | S0053: 1 and S0216: 1.         |  |
| HNHIW13  | 657249 | 5351 | 77 - 403  | 15103 | Thr-7 to Arg-14,<br>Pro-33 to Ser-38,<br>Gly-45 to Lys-75.  | S0053: 2                       |  |
| HNHIW35  | 707339 | 5352 | 147 - 299 | 15104 | Asn-3 to Trp-14,<br>Gly-31 to Lys-39,<br>Val-46 to Asp-51.  | S0053: 2                       |  |
| HNHIIH15 | 859926 | 5353 | 154 - 417 | 15105 |   | S0216: 2                       |  |
| HNHII60  | 739885 | 5354 | 302 - 93  | 15106 | Ser-17 to Val-31.   | S0216: 2                       |  |
| HNHII24  | 859923 | 5355 | 223 - 372 | 15107 |   | S0216: 2                       |  |
| HNHII72  | 761427 | 5356 | 115 - 225 | 15108 |   | S0216: 2                       |  |
| HNHII88  | 786555 | 5357 | 1 - 177   | 15109 | Gly-6 to Leu-13.  | S0216: 2                       |  |
| HNHIIK73 | 762011 | 5358 | 51 - 443  | 15110 | Asp-15 to Ser-20,<br>Arg-40 to Gly-46.                      | AR061: 7, AR089: 4<br>S0216: 2 |  |
| HNHIIK30 | 793658 | 5359 | 1 - 138   | 15111 |   | S0216: 2 and S0428: 1.         |  |
| HNHIIK48 | 721149 | 5360 | 167 - 358 | 15112 | Gln-51 to Asp-62.   | S0216: 2                       |  |

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|---------|--------|------|-----------|-------|---|--|-------------------------------------|--|
| HNHKP72 | 761432 | 5361 | 526 - 726 | 15113 |   |  | S0216: 2                            |  |
| HNHKS69 | 750487 | 5362 | 92 - 241  | 15114 | Ser-8 to Ala-15.  |  | S0053: 1 and S0216: 1.              |  |
| HNHKS75 | 760926 | 5363 | 79 - 324  | 15115 | Thr-16 to Ala-24,<br>Asn-33 to Asn-38.  |  | S0216: 2                            |  |
| HNHKT06 | 934643 | 5364 | 30 - 137  | 15116 | Ser-6 to Asn-18.  |  | S0216: 2                            |  |
| HNHKT75 | 760924 | 5365 | 3 - 119   | 15117 |   |  | S0216: 2                            |  |
| HNHKV67 | 751205 | 5366 | 205 - 375 | 15118 | Lys-26 to Met-31.   |  | S0216: 2                            |  |
| HNHKW47 | 786020 | 5367 | 14 - 193  | 15119 | Glu-36 to Ser-45.   |  | H0402: 1 and S0216: 1.              |  |
| HNHKW76 | 767917 | 5368 | 42 - 290  | 15120 | Pro-43 to Gln-50.   |  | S0216: 1 and H0445: 1.              |  |
| HNHKW81 | 761429 | 5369 | 247 - 504 | 15121 | Gln-1 to Glu-6,<br>Arg-22 to Gly-29.  |  | S0216: 2                            |  |
| HNHKW83 | 780650 | 5370 | 1 - 531   | 15122 | Gln-32 to His-37,<br>Ala-63 to His-69,<br>Pro-94 to Ala-110,<br>Ser-136 to Gln-145. |  | S0216: 2                            |  |
| HNHXX10 | 963575 | 5371 | 251 - 409 | 15123 |   |  | S0216: 3                            |  |
| HNHXX38 | 796804 | 5372 | 334 - 477 | 15124 | Ser-1 to Lys-7,<br>Glu-15 to Val-23.  |  | S0002: 1 and S0216: 1.              |  |
| HNHXX47 | 789625 | 5373 | 163 - 387 | 15125 |   |  | S0428: 1 and S0216: 1.              |  |
| HNHXX77 | 771530 | 5374 | 78 - 377  | 15126 |   |  | S0216: 2                            |  |
| HNHKZ11 | 960164 | 5375 | 85 - 288  | 15127 | Asn-35 to Leu-41,<br>Tyr-45 to Phe-50,<br>Thr-58 to Thr-67.                         |  | S0216: 2                            |  |
| HNHLA08 | 958422 | 5376 | 107 - 340 | 15128 | Ser-15 to Leu-21.   |  | S0428: 1 and S0216: 1.              |  |
| HNHLA16 | 784264 | 5377 | 557 - 814 | 15129 |   |  | L0764: 1, S0216: 1 and<br>H0522: 1. |  |
| HNHLA55 | 754480 | 5378 | 1 - 420   | 15130 | Ala-63 to Cys-71,<br>Pro-80 to Gly-89,<br>Pro-102 to Gly-116.                       |  | S0216: 2                            |  |
| HNHLA71 | 761430 | 5379 | 388 - 585 | 15131 | Glu-10 to Glu-21,<br>Ser-39 to Ala-44,<br>Gly-48 to Met-53.                         |  | S0216: 2                            |  |
| HNHLA89 | 786461 | 5380 | 2 - 310   | 15132 | Arg-16 to Gly-23,<br>Trp-60 to Trp-65.  |  | H0254: 1 and S0216: 1.              |  |
| HNHLA90 | 970724 | 5381 | 241 - 609 | 15133 | Gln-33 to Gly-42,<br>Ala-59 to Arg-72.  |  | S0052: 1, S0053: 1 and<br>S0216: 1. |  |



|         |        |      |           |       |                    |  |                        |  |
|---------|--------|------|-----------|-------|--------------------|--|------------------------|--|
| HNHLB08 | 958416 | 5382 | 92 - 268  | 15134 | Gly-95 to Ser-104. |  |                        |  |
|         |        |      |           |       | Gln-24 to Pro-30,  |  |                        |  |
| HNHLC69 | 754466 | 5383 | 84 - 356  | 15135 | Ser-52 to Gly-59.  |  | S0216: 2               |  |
| HNHLD08 | 859857 | 5384 | 2 - 319   | 15136 | Ser-58 to Ala-66.  |  | S0216: 2               |  |
|         |        |      |           |       | Leu-38 to Gly-46,  |  | S0216: 2               |  |
|         |        |      |           |       | Leu-49 to Gln-56,  |  |                        |  |
|         |        |      |           |       | Pro-64 to Ser-70.  |  |                        |  |
| HNHLD13 | 805983 | 5385 | 208 - 378 | 15137 | Gly-1 to Ser-6.    |  | S0216: 2               |  |
| HNHLD37 | 859859 | 5386 | 123 - 353 | 15138 | Val-7 to Ser-15,   |  | S0053: 1 and S0216: 1. |  |
|         |        |      |           |       | Pro-29 to Ser-35.  |  |                        |  |
| HNHLD81 | 779345 | 5387 | 149 - 301 | 15139 | Lys-3 to His-8.    |  | S0216: 2               |  |
| HNHLE72 | 966149 | 5388 | 130 - 246 | 15140 |                    |  | S0216: 2               |  |
| HNHLF25 | 859856 | 5389 | 1 - 258   | 15141 |                    |  | S0053: 1 and S0216: 1. |  |
| HNHLF33 | 908449 | 5390 | 1 - 255   | 15142 | Phe-5 to Gly-16,   |  | S0053: 1 and S0216: 1. |  |
|         |        |      |           |       | Thr-18 to Met-25,  |  |                        |  |
|         |        |      |           |       | Lys-55 to Ser-63.  |  |                        |  |
| HNHLF58 | 859858 | 5391 | 3 - 233   | 15143 | Thr-2 to Thr-12,   |  | S0216: 2               |  |
|         |        |      |           |       | Val-21 to Leu-36,  |  |                        |  |
|         |        |      |           |       | Gln-49 to Ser-56.  |  |                        |  |
| HNHLP56 | 883321 | 5392 | 100 - 213 | 15144 |                    |  | S0053: 1 and S0216: 1. |  |
| HNHLP69 | 754440 | 5393 | 73 - 180  | 15145 |                    |  | S0053: 1 and S0216: 1. |  |
| HNHLP77 | 967239 | 5394 | 176 - 466 | 15146 |                    |  | S0052: 1 and S0216: 1. |  |
| HNHLQ36 | 760460 | 5395 | 161 - 454 | 15147 |                    |  | S0053: 1 and S0216: 1. |  |
| HNHLQ61 | 795942 | 5396 | 119 - 289 | 15148 |                    |  | S0052: 1 and S0216: 1. |  |
| HNHLQ80 | 775621 | 5397 | 17 - 253  | 15149 |                    |  | H0179: 2 and S0216: 1. |  |
| HNHLR73 | 761855 | 5398 | 3 - 179   | 15150 | Gly-53 to Cys-59.  |  | S0216: 2               |  |
| HNHLR91 | 789786 | 5399 | 160 - 276 | 15151 |                    |  | S0216: 2               |  |
| HNHLS04 | 927077 | 5400 | 1 - 168   | 15152 | Thr-18 to Gly-24,  |  | S0216: 2               |  |
|         |        |      |           |       | Asn-39 to Gly-49.  |  |                        |  |
| HNHLS53 | 827329 | 5401 | 45 - 176  | 15153 | Gly-28 to Val-34.  |  | S0216: 2               |  |
| HNHLT49 | 784983 | 5402 | 112 - 5   | 15154 | Lys-1 to Gly-14.   |  | S0216: 2               |  |
| HNHLV84 | 782319 | 5403 | 99 - 230  | 15155 |                    |  | S0216: 2               |  |
| HNHLW93 | 791782 | 5404 | 227 - 448 | 15156 |                    |  | S0002: 1 and S0216: 1. |  |
| HNHLX82 | 779298 | 5405 | 2 - 151   | 15157 | Gln-37 to Lys-50.  |  | S0216: 2               |  |
| HNHMC78 | 772969 | 5406 | 200 - 319 | 15158 |                    |  | S0216: 2               |  |

|          |        |      |           |       |   |                                  |  |
|----------|--------|------|-----------|-------|---|----------------------------------|--|
| HNHMD85  | 876673 | 5407 | 7 - 159   | 15159 | Tyr-6 to Gln-28.  | S0053: 1 and S0216: 1.           |  |
| HNHMD25  | 784479 | 5408 | 199 - 597 | 15160 | Pro-38 to Leu-47.   | L0747: 2, S0052: 1 and S0216: 1. |  |
| HNHMQ93  | 791798 | 5409 | 32 - 145  | 15161 | Leu-17 to Asp-25.   | S0216: 2                         |  |
| HNHMR04  | 927056 | 5410 | 100 - 420 | 15162 |   | S0053: 1 and S0216: 1.           |  |
| HNHMR43  | 937561 | 5411 | 216 - 362 | 15163 |   | S0053: 1 and S0216: 1.           |  |
| HNHMR73  | 967614 | 5412 | 240 - 428 | 15164 | Lys-7 to Ser-20,<br>Ser-32 to Ser-37.   | S0114: 1 and S0216: 1.           |  |
| HNHMS77  | 916609 | 5413 | 1 - 144   | 15165 |   | S0053: 1 and S0216: 1.           |  |
| HNHMS93  | 791807 | 5414 | 3 - 167   | 15166 | Arg-21 to Trp-28,<br>Thr-30 to Gly-36.  | H0421: 1 and S0216: 1.           |  |
| HNHMT53  | 925689 | 5415 | 205 - 339 | 15167 |   | S0216: 2                         |  |
| HNHMT54  | 790765 | 5416 | 132 - 263 | 15168 | Phe-1 to Ser-12,<br>Thr-18 to Thr-27.   | S0428: 1 and S0216: 1.           |  |
| HNHMT90  | 937564 | 5417 | 123 - 230 | 15169 |   | S0216: 2                         |  |
| HNHMT91  | 789785 | 5418 | 2 - 130   | 15170 | Thr-23 to Gln-28.   | H0265: 1 and S0216: 1.           |  |
| HNHMTW83 | 780558 | 5419 | 30 - 257  | 15171 | Arg-3 to Asn-10,<br>Lys-27 to Leu-32,<br>Met-35 to Ile-41,<br>Pro-47 to Asn-54. | S0053: 1 and S0216: 1.           |  |
| HNHMX45  | 953411 | 5420 | 2 - 379   | 15172 |   | H0402: 1 and S0216: 1.           |  |
| HNHMY43  | 859841 | 5421 | 1 - 225   | 15173 | Pro-19 to Gly-27.   | S0216: 2                         |  |
| HNHMY45  | 958409 | 5422 | 24 - 239  | 15174 | Glu-25 to Cys-33.   | S0216: 2                         |  |
| HNHMY59  | 883324 | 5423 | 113 - 400 | 15175 |   | S0216: 2                         |  |
| HNHMY71  | 761436 | 5424 | 3 - 236   | 15176 | Pro-31 to Gly-36.   | S0216: 2                         |  |
| HNHMT07  | 952290 | 5425 | 115 - 369 | 15177 | Gly-2 to Cys-10.  | S0216: 2, L0361: 2 and L0742: 1. |  |
| HNHMT59  | 761661 | 5426 | 165 - 278 | 15178 |   | S0216: 1 and H0445: 1.           |  |
| HNHMT86  | 784999 | 5427 | 1 - 93    | 15179 | Asn-7 to Glu-17,<br>Ser-24 to Lys-31.   | S0216: 2                         |  |
| HNHMT89  | 786457 | 5428 | 146 - 313 | 15180 |   | S0216: 2                         |  |
| HNHNA02  | 918720 | 5429 | 73 - 228  | 15181 | Ala-22 to Lys-30.   | S0053: 1 and S0216: 1.           |  |
| HNHNA69  | 754452 | 5430 | 11 - 160  | 15182 |   | S0216: 2                         |  |
| HNHNB77  | 771523 | 5431 | 1 - 243   | 15183 | Ser-31 to Lys-36,<br>Ser-76 to Ile-81.  | S0053: 1 and S0216: 1.           |  |

|          |        |      |           |       |   |  |   |  |
|----------|--------|------|-----------|-------|---|--|---|--|
| HNHNC82  | 779321 | 5432 | 146 - 310 | 15184 |   |  | S0216: 2  |  |
| HNHND80  | 775612 | 5433 | 234 - 431 | 15185 |   |  | S0053: 1 and S0216: 1.  |  |
| HNHNE11  | 966146 | 5434 | 3 - 95    | 15186 |   |  | S0216: 2  |  |
| HNHNE59  | 771529 | 5435 | 190 - 351 | 15187 |   |  | S0216: 3  |  |
| HNHNE83  | 780628 | 5436 | 2 - 346   | 15188 | Asp-1 to Arg-6,<br>Gln-53 to Ser-60,<br>Ile-66 to Lys-72,<br>Glu-76 to Lys-85,<br>Gly-91 to Ser-99. |  | H0271: 3, H0250: 2, H0635:<br>2, S0216: 2, H0254: 1,<br>H0638: 1, H0069: 1, H0416:<br>1, H0090: 1, L0761: 1,<br>L0800: 1, L0776: 1, L0789: 1<br>and S0052: 1. |  |
| HNHNG73  | 761849 | 5437 | 226 - 456 | 15189 |   |  | S0052: 1 and S0216: 1.  |  |
| HNHNI10  | 963571 | 5438 | 1 - 225   | 15190 |   |  | S0116: 1 and S0216: 1.  |  |
| HNHNI14  | 923079 | 5439 | 44 - 178  | 15191 |   |  | S0216: 2  |  |
| HNHNI08  | 859837 | 5440 | 3 - 242   | 15192 | Thr-23 to Thr-28,<br>His-34 to Met-39,<br>Val-69 to Arg-76.   |  | S0053: 1 and S0216: 1.  |  |
| HNHNK71  | 775635 | 5441 | 3 - 179   | 15193 | Met-4 to Gly-9,<br>Ser-12 to Leu-20.  |  | S0216: 2  |  |
| HNHNL70  | 756633 | 5442 | 147 - 341 | 15194 |   |  | S0216: 2  |  |
| HNHNN56  | 859834 | 5443 | 144 - 371 | 15195 | Pro-38 to Gln-44.   |  | L0368: 1, S0053: 1 and<br>S0216: 1.   |  |
| HNHNO84  | 782328 | 5444 | 140 - 253 | 15196 |   |  | S0216: 1 and H0445: 1.  |  |
| HNHNP80  | 775631 | 5445 | 54 - 185  | 15197 |   |  | S0053: 1 and S0216: 1.  |  |
| HNHNP86  | 784788 | 5446 | 122 - 334 | 15198 |   |  | S0216: 2  |  |
| HNHNU23  | 968911 | 5447 | 179 - 436 | 15199 | Met-1 to Ala-12.  |  | S0216: 2 and L0748: 1.  |  |
| HNHNU27  | 920254 | 5448 | 272 - 424 | 15200 | Tyr-9 to Arg-14,<br>Glu-22 to Pro-34.   |  | H0402: 1 and S0216: 1.  |  |
| HNHNV52  | 859831 | 5449 | 82 - 213  | 15201 | Arg-12 to Tyr-17.   |  | S0216: 2  |  |
| HNHNW64  | 859832 | 5450 | 1 - 222   | 15202 | Lys-14 to Pro-19.   |  | S0216: 2  |  |
| HNHNX04  | 927027 | 5451 | 1 - 168   | 15203 |   |  | S0216: 2  |  |
| HNHNX88  | 959011 | 5452 | 2 - 157   | 15204 |   |  | S0052: 1, S0428: 1, S0216:<br>1 and H0444: 1.   |  |
| HNHNOA03 | 923052 | 5453 | 122 - 457 | 15205 |   |  | S0052: 1 and S0216: 1.  |  |
| HNHOC03  | 922892 | 5454 | 164 - 280 | 15206 |   |  | H0551: 1 and S0216: 1.  |  |
| HNHOD01  | 915341 | 5455 | 28 - 219  | 15207 | Arg-1 to Tyr-6,   |  | S0052: 1 and S0216: 1.  |  |

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|---------|--------|------|-----------|-------|---|--|--|--|--|
| HNHOD62 | 852995 | 5456 | 143 - 319 | 15208 | Leu-27 to Leu-41.   |  | H0589: 1, S0052: 1 and S0216: 1.           |  |  |
| HNHOE53 | 767329 | 5457 | 285 - 422 | 15209 |   |  | S0053: 1 and S0216: 1.                     |  |  |
| HNHOF03 | 922028 | 5458 | 3 - 197   | 15210 | Ser-10 to Ser-15,<br>Glu-44 to Phe-65.  |  | T0041: 1, S0428: 1 and S0216: 1.           |  |  |
| HNHOF07 | 952291 | 5459 | 90 - 326  | 15211 | Lys-1 to Thr-18,<br>Leu-28 to Arg-34,<br>His-46 to Thr-59,<br>Pro-62 to Gln-69.                     |  | T0041: 1, S0216: 1 and H0576: 1.           |  |  |
| HNHOF92 | 790934 | 5460 | 158 - 358 | 15212 | Gly-19 to Lys-29.   |  | H0457: 1 and S0216: 1.                     |  |  |
| HNHOG84 | 782316 | 5461 | 331 - 543 | 15213 | Lys-28 to Cys-37,<br>Cys-41 to Pro-48,<br>Leu-61 to Thr-69.   |  | S0216: 2                                   |  |  |
| HNHOG86 | 785004 | 5462 | 128 - 394 | 15214 | Pro-1 to Ala-6,<br>Pro-26 to Gly-31,<br>Arg-50 to Leu-56,<br>Ser-69 to Gly-76,<br>Ala-80 to Glu-89. |  | S0216: 2                                   |  |  |
| HNHOH10 | 963562 | 5463 | 298 - 558 | 15215 | Tyr-28 to Ala-37.   |  | S0216: 2                                   |  |  |
| HNHOJ03 | 923072 | 5464 | 464 - 712 | 15216 | Cys-15 to Leu-24.   |  | S0216: 2 and L0749: 1.                     |  |  |
| HNHOM92 | 792328 | 5465 | 179 - 310 | 15217 | Phe-12 to Arg-20.   |  | H0402: 1 and S0216: 1.                     |  |  |
| HNHOO16 | 959616 | 5466 | 549 - 845 | 15218 |   |  | H0423: 2, H0486: 1, S0216: 1 and L0753: 1. |  |  |
| HNHOO25 | 859826 | 5467 | 229 - 408 | 15219 | Leu-12 to Asp-17,<br>Lys-23 to Gln-29.  |  | S0053: 1 and S0216: 1.                     |  |  |
| HNHOO74 | 915462 | 5468 | 24 - 467  | 15220 | Thr-13 to Arg-22,<br>Arg-78 to Pro-83.  |  | H0254: 1, H0264: 1 and S0216: 1.           |  |  |
| HNHOO87 | 787562 | 5469 | 72 - 260  | 15221 | Glu-5 to Pro-11.  |  | S0216: 2                                   |  |  |
| HNHOP10 | 963539 | 5470 | 298 - 477 | 15222 | Ala-1 to Trp-7,<br>Lys-21 to Ala-28.  |  | S0053: 1 and S0216: 1.                     |  |  |
| HNHOQ76 | 767877 | 5471 | 3 - 341   | 15223 | Gly-1 to Trp-12,<br>Lys-14 to Leu-19,<br>Lys-52 to Ser-59.  |  | S0216: 2                                   |  |  |
| HNHOS70 | 756593 | 5472 | 3 - 323   | 15224 | Met-19 to Gly-28,<br>Gly-33 to Ser-51.  |  | H0402: 1 and S0216: 1.                     |  |  |

|         |        |      |           |       |  |  |  |  |                        |  |  |
|---------|--------|------|-----------|-------|--|--|--|--|------------------------|--|--|
|         |        |      |           |       |  |  | Asn-56 to Gly-63,<br>Asp-83 to Tyr-88.   |  |                        |  |  |
| HNHOS75 | 766736 | 5473 | 246 - 377 | 15225 |  |  |  |  | S0216: 2               |  |  |
| HNHOT10 | 963631 | 5474 | 310 - 107 | 15226 |  |  |  |  | S0216: 2               |  |  |
| HNHOT11 | 923065 | 5475 | 258 - 482 | 15227 |  |  |  |  | S0216: 2               |  |  |
| HNHOT95 | 795331 | 5476 | 100 - 2   | 15228 |  |  |  |  | S0216: 2               |  |  |
| HNHOU20 | 773797 | 5477 | 28 - 138  | 15229 |  |  | Ala-12 to Ser-18,<br>Phe-31 to His-37.   |  | S0053: 1 and S0216: 1. |  |  |
| HNHOU68 | 806090 | 5478 | 2 - 151   | 15230 |  |  |  |  | S0216: 2               |  |  |
| HNHOU94 | 793514 | 5479 | 1 - 282   | 15231 |  |  | Gly-24 to Ser-31.  |  | S0216: 2               |  |  |
| HNHOX09 | 854882 | 5480 | 367 - 705 | 15232 |  |  | Gly-1 to Ser-6,<br>Pro-41 to Gly-48,<br>Ser-79 to Arg-92,<br>Pro-104 to Asn-112.   |  | S0216: 2 and L0589: 1. |  |  |
| HNHOX10 | 963545 | 5481 | 2 - 307   | 15233 |  |  | Pro-3 to Ser-15,<br>Gly-57 to Gly-63,<br>Ser-89 to His-99.   |  | S0216: 3               |  |  |
| HNHOX31 | 859820 | 5482 | 33 - 491  | 15234 |  |  |  |  | S0216: 2               |  |  |
| HNHOX89 | 786411 | 5483 | 30 - 254  | 15235 |  |  | Ser-38 to His-57.  |  | S0216: 2               |  |  |
| HNHOZ04 | 923013 | 5484 | 68 - 298  | 15236 |  |  | Lys-1 to Pro-8,<br>Leu-11 to Phe-20.   |  | S0216: 2               |  |  |
| HNHOZ90 | 787488 | 5485 | 106 - 657 | 15237 |  |  | Ser-27 to His-32,<br>Pro-36 to Gly-41,<br>Gly-49 to His-55,<br>Trp-84 to Lys-96,<br>Ser-118 to Gln-130,<br>Pro-144 to Gly-157. |  | S0053: 1 and S0216: 1. |  |  |
| HNHPC08 | 952246 | 5486 | 28 - 198  | 15238 |  |  | Arg-21 to Val-38,<br>Ala-42 to Leu-47.   |  | S0216: 2               |  |  |
| HNHPC36 | 859819 | 5487 | 41 - 259  | 15239 |  |  |  |  | S0216: 2               |  |  |
| HNHPC72 | 772970 | 5488 | 38 - 340  | 15240 |  |  | Arg-41 to Val-47,<br>Ala-80 to Gln-89.   |  | S0216: 2               |  |  |
| HNHPD04 | 974103 | 5489 | 59 - 325  | 15241 |  |  | Gly-1 to Val-8,<br>Phe-12 to Arg-30,<br>Arg-43 to His-58,<br>Gln-60 to Val-66.   |  | S0053: 2 and S0216: 1. |  |  |

|         |        |      |            |       |                     |                            |  |  |
|---------|--------|------|------------|-------|---------------------|----------------------------|--|--|
| HNHPD07 | 952244 | 5490 | 174 - 389  | 15242 | Leu-83 to Glu-88.   |                            |  |  |
| HNHPD13 | 859815 | 5491 | 2 - 322    | 15243 | Gln-23 to Lys-33.   | S0216: 2                   |  |  |
|         |        |      |            |       | His-46 to Cys-51,   | S0216: 2                   |  |  |
|         |        |      |            |       | Pro-61 to Leu-67,   |                            |  |  |
|         |        |      |            |       | Thr-76 to Ser-81,   |                            |  |  |
|         |        |      |            |       | Pro-83 to Cys-89.   |                            |  |  |
| HNHPE86 | 784919 | 5492 | 3 - 311    | 15244 |                     | S0216: 2                   |  |  |
| HNHPG61 | 784432 | 5493 | 27 - 458   | 15245 | Ala-1 to Gly-13,    | S0052: 1 and S0216: 1.     |  |  |
|         |        |      |            |       | Gln-48 to Ser-60,   |                            |  |  |
|         |        |      |            |       | His-80 to Ser-85.   |                            |  |  |
| HNHPG66 | 859812 | 5494 | 299 - 484, | 15246 | Cys-18 to His-23.   | S0428: 1 and S0216: 1.     |  |  |
| HNHPG85 | 783821 | 5495 | 185 - 367  | 15247 | Ile-33 to Leu-38.   | S0053: 1 and S0216: 1.     |  |  |
| HNHPH29 | 934456 | 5496 | 233 - 451  | 15248 | Ser-33 to Lys-38,   | S0216: 2                   |  |  |
|         |        |      |            |       | Arg-45 to Thr-51.   |                            |  |  |
| HOIAE91 | 935322 | 5497 | 101 - 520  | 15249 | Ser-30 to Phe-37,   | H0250: 3, S3016: 1, H0402: |  |  |
|         |        |      |            |       | Ser-39 to Leu-45,   | 1, H0625: 1, L0509: 1,     |  |  |
|         |        |      |            |       | Asp-53 to Thr-60,   | L0791: 1, S0292: 1, H0521: |  |  |
|         |        |      |            |       | Glu-74 to Gly-79,   | 1, H0436: 1 and S3020: 1.  |  |  |
|         |        |      |            |       | Gly-86 to Lys-100,  |                            |  |  |
|         |        |      |            |       | Gln-106 to Ser-124. |                            |  |  |
| HPSAA31 | 739041 | 5498 | 29 - 280   | 15250 | Tyr-1 to Lys-9,     | H0305: 2, H0589: 1 and     |  |  |
|         |        |      |            |       | Glu-29 to Ser-36,   | H0074: 1.                  |  |  |
|         |        |      |            |       | Ser-52 to Asn-60.   |                            |  |  |
| HPSAA50 | 723558 | 5499 | 70 - 297   | 15251 | Gln-1 to Lys-6,     | H0074: 2                   |  |  |
|         |        |      |            |       | Gly-18 to Asp-24.   |                            |  |  |
| HPSAA63 | 536776 | 5500 | 87 - 182   | 15252 |                     | H0074: 3                   |  |  |
| HPSAB25 | 677474 | 5501 | 275 - 192  | 15253 |                     | H0074: 2                   |  |  |
| HSATA03 | 925082 | 5502 | 49 - 174   | 15254 |                     | S0114: 1 and H0264: 1.     |  |  |
| HSATA86 | 683251 | 5503 | 78 - 227   | 15255 | Ser-1 to Gln-11,    | S0114: 2 and L0748: 2.     |  |  |
|         |        |      |            |       | Ile-36 to Glu-50.   |                            |  |  |
| HSATE44 | 666207 | 5504 | 129 - 338  | 15256 | His-4 to Gln-9,     | S0114: 1 and H0318: 1.     |  |  |
|         |        |      |            |       | Gly-32 to Ser-42.   |                            |  |  |
| HSATE89 | 531280 | 5505 | 148 - 375  | 15257 | Leu-5 to Lys-12,    | S0114: 2                   |  |  |
|         |        |      |            |       | Lys-27 to Arg-32.   |                            |  |  |
| HSATF05 | 907593 | 5506 | 15 - 200   | 15258 | Glu-1 to Ser-7,     | S0114: 1, H0306: 1 and     |  |  |
|         |        |      |            |       | Thr-17 to Ser-24.   | L0761: 1.                  |  |  |

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| HSATF79  | 781718 | 5507 | 2 - 205   | 15259 |  |  | S0114: 1 and H0521: 1.                                       |  |
| HSATJ56  | 716434 | 5508 | 240 - 404 | 15260 |  |  | S0114: 1 and H0445: 1.                                       |  |
| HSATJ84  | 781405 | 5509 | 196 - 315 | 15261 |  |  | S0114: 2 and L0748: 1.                                       |  |
| HSATM25  | 688006 | 5510 | 173 - 418 | 15262 |  |  | S0114: 1 and H0436: 1.                                       |  |
| HSATM79  | 677717 | 5511 | 3 - 437   | 15263 |  | Pro-39 to Lys-54.  | S0114: 1 and H0591: 1.                                       |  |
| HSATQ28  | 866951 | 5512 | 3 - 164   | 15264 |  |  | AR089: 120, AR061: 12<br>S0114: 2, H0422: 2 and<br>L0748: 1. |  |
| HSATQ76  | 765376 | 5513 | 319 - 582 | 15265 |  | Val-6 to Leu-23.   | S0114: 1, H0581: 1 and<br>L0756: 1.                          |  |
| HSATR17  | 888871 | 5514 | 255 - 389 | 15266 |  |  | AR051: 5, AR054: 3,<br>AR050: 0<br>S0114: 1 and H0272: 1.    |  |
| HSATR27  | 713143 | 5515 | 1 - 180   | 15267 |  | Arg-7 to Gly-12.   | S0114: 3   |  |
| HSATR32  | 699586 | 5516 | 2 - 256   | 15268 |  |  | S0114: 2 and H0581: 1.                                       |  |
| HSATR76  | 659994 | 5517 | 120 - 305 | 15269 |  |  | H0445: 2, S0114: 1 and<br>L0745: 1.                          |  |
| HSATS23  | 524369 | 5518 | 19 - 123  | 15270 |  |  | S0114: 2   |  |
| HSATS29  | 689823 | 5519 | 116 - 214 | 15271 |  |  | S0114: 1 and H0444: 1.                                       |  |
| HSATS56  | 732640 | 5520 | 63 - 242  | 15272 |  | Thr-38 to Ser-47.  | S0114: 1 and H0576: 1.                                       |  |
| HSATT96  | 796565 | 5521 | 252 - 422 | 15273 |  | Tyr-14 to Ser-25.  | S0114: 1 and H0318: 1.                                       |  |
| HSATV34  | 732184 | 5522 | 459 - 325 | 15274 |  |  | S0114: 1 and H0423: 1.                                       |  |
| HSATW22  | 531171 | 5523 | 138 - 266 | 15275 |  |  | S0114: 2, L0758: 2, L0041: 5<br>1, L0659: 1 and L0747: 1.    |  |
| HSATX46  | 866959 | 5524 | 2 - 250   | 15276 |  | Glu-12 to His-20.  | S0114: 2 and S0426: 1.                                       |  |
| HSUAUA88 | 757624 | 5525 | 86 - 313  | 15277 |  | Gly-9 to Asn-15,<br>Glu-29 to Phe-41,<br>Trp-65 to Cys-70. | S0114: 1 and H0422: 1.                                       |  |
| HSUAUB19 | 954055 | 5526 | 112 - 204 | 15278 |  | Arg-11 to Ser-17,<br>Ser-24 to Cys-29.                     | S0114: 2   |  |
| HSUAUB90 | 733714 | 5527 | 3 - 131   | 15279 |  |  | H0265: 1 and S0114: 1.                                       |  |
| HSAUD05  | 932502 | 5528 | 1 - 183   | 15280 |  | Ser-6 to Glu-11.   | S0114: 2 and H0264: 1.                                       |  |
| HSAUD45  | 531170 | 5529 | 1 - 237   | 15281 |  |  | S0114: 1 and S0053: 1.                                       |  |
| HSUAUE25 | 571385 | 5530 | 64 - 177  | 15282 |  | Leu-26 to Cys-33.  | S0114: 1 and S0134: 1.                                       |  |
| HSUAUE40 | 866933 | 5531 | 124 - 405 | 15283 |  |  | S0114: 2   |  |

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| HSAUF18 | 527038 | 5532 | 17 - 328  | 15284 | Leu-16 to Pro-22.                                    | S0114: 1, H0179: 1, S0052: 1 and L0751: 1.   |   |
| HSAUG15 | 933628 | 5533 | 690 - 836 | 15285 | Lys-18 to Ile-23.                                    | L0766: 3, S0114: 1, H0063: 1, L0761: 1, L0805: 1, L0776: 1, L0527: 1 and L0744: 1. |   |
| HSAUH65 | 933873 | 5534 | 177 - 278 | 15286 |  | S0114: 2   |   |
| HSAUH69 | 870437 | 5535 | 528 - 758 | 15287 | Leu-1 to Cys-6.                                      | L0766: 4, L0740: 4, L0777: 2, S0114: 1 and S0134: 1.                               |   |
| HSAUI05 | 856886 | 5536 | 156 - 368 | 15288 |  | S0114: 1 and H0254: 1.   |   |
| HSAUI26 | 950714 | 5537 | 110 - 211 | 15289 |  | S0114: 1 and H0551: 1.   |   |
| HSAUL67 | 866919 | 5538 | 204 - 380 | 15290 |  | S0114: 1 and H0254: 1.   |   |
| HSAUQ94 | 526936 | 5539 | 82 - 192  | 15291 | His-6 to Ser-12, Asn-24 to Asn-32.                   | S0114: 3   |   |
| HSAUT77 | 557848 | 5540 | 2 - 163   | 15292 | Arg-31 to Gly-37.                                    | S0114: 2   |   |
| HSAUW10 | 967600 | 5541 | 121 - 360 | 15293 | Leu-6 to Gly-12, Pro-14 to Ser-20, Thr-38 to Ile-46. | S0114: 2   |   |
| HSAUW71 | 537544 | 5542 | 77 - 274  | 15294 | Ser-1 to Thr-6.                                      | S0114: 2   |   |
| HSAUZ38 | 744899 | 5543 | 215 - 463 | 15295 | Gly-58 to Gly-66.                                    | S0114: 3, H0445: 3, L0002: 1 and L0803: 1.   |   |
| HSAUZ57 | 685253 | 5544 | 388 - 579 | 15296 |  | S0114: 2, H0402: 1 and L0748: 1.   |   |
| HSAVA44 | 866900 | 5545 | 1 - 210   | 15297 | His-22 to Thr-28.                                    | S0114: 2   |   |
| HSAVA61 | 742073 | 5546 | 1 - 153   | 15298 | Phe-8 to His-16.                                     | S0114: 1, H0087: 1 and L0731: 1.   | 2 |
| HSAVB05 | 932496 | 5547 | 41 - 157  | 15299 |  | S0114: 1 and S0116: 1.   |   |
| HSAVB19 | 866899 | 5548 | 5 - 322   | 15300 | Arg-1 to Pro-13, Ala-40 to Gly-49.                   | S0114: 2   |   |
| HSAVC41 | 584978 | 5549 | 1 - 132   | 15301 | Thr-1 to Asp-10.                                     | S0114: 2   |   |
| HSAVC76 | 967286 | 5550 | 173 - 325 | 15302 |  | S0114: 1 and S0134: 1.   |   |
| HSAVF35 | 932462 | 5551 | 84 - 257  | 15303 | Asp-25 to Phe-35.                                    | H0265: 1 and S0114: 1.   |   |
| HSAVG81 | 959949 | 5552 | 335 - 547 | 15304 | Leu-41 to Phe-47, Val-51 to Arg-59.                  | S0114: 2, H0439: 1, L0794: 1, L0777: 1 and L0599: 1.                               |   |
| HSAVH17 | 417452 | 5553 | 37 - 186  | 15305 | Cys-34 to Thr-39.                                    | S0114: 2   |   |
| HSAVH95 | 574243 | 5554 | 142 - 273 | 15306 |  | S0114: 1, H0318: 1 and   |   |



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| HSADV144 | 715837 | 5555 | 82 - 225  | 15307 | Lys-1 to Ser-6.   | L0749: 1.  |  |
| HSADV146 | 717837 | 5556 | 245 - 460 | 15308 | Tyr-11 to Trp-18,<br>Arg-41 to Val-53.                        | S0114: 1 and H0445: 1.<br>S0114: 1 and S0002: 1. |  |
| HSADV159 | 579060 | 5557 | 110 - 376 | 15309 |   | S0114: 1 and H0063: 1.                           |  |
| HSADV177 | 739521 | 5558 | 1 - 177   | 15310 |   | S0114: 2   |  |
| HSADV143 | 714418 | 5559 | 174 - 503 | 15311 | Phe-34 to Cys-39,<br>Pro-77 to Tyr-82,<br>Arg-105 to Arg-110. | L0748: 6, L0749: 2, S0114:<br>1 and S0426: 1.    |  |
| HSADV07  | 935797 | 5560 | 81 - 233  | 15312 | Lys-8 to Arg-15,<br>Thr-21 to Lys-36.                         | S0114: 1, H0402: 1 and<br>L0521: 1.              |  |
| HSADV17  | 920412 | 5561 | 221 - 430 | 15313 | Ser-11 to Cys-21.   | S0114: 1 and H0445: 1.                           |  |
| HSADV037 | 574709 | 5562 | 2 - 265   | 15314 | Gly-1 to Ser-18.  | H0556: 1, S0114: 1 and<br>H0090: 1.              |  |
| HSADV053 | 531111 | 5563 | 115 - 249 | 15315 |   | S0114: 2   |  |
| HSADV082 | 531398 | 5564 | 131 - 60  | 15316 |   | S0114: 1 and H0179: 1.                           |  |
| HSADV10  | 964950 | 5565 | 240 - 416 | 15317 |   | S0114: 2   |  |
| HSADVQ46 | 574784 | 5566 | 3 - 254   | 15318 | Ala-1 to Arg-18.  | S0114: 1, H0271: 1 and<br>L0657: 1.              |  |
| HSADVQ56 | 522431 | 5567 | 75 - 347  | 15319 |   | S0114: 2   |  |
| HSAVR06  | 936049 | 5568 | 11 - 91   | 15320 |   | S0114: 2   |  |
| HSAVR74  | 827090 | 5569 | 2 - 112   | 15321 | Lys-22 to Lys-27.   | S0114: 2   |  |
| HSAVS17  | 574269 | 5570 | 3 - 71    | 15322 | Gln-2 to Thr-13.  | S0114: 2   |  |
| HSAVS46  | 526756 | 5571 | 1 - 249   | 15323 |   | S0114: 2   |  |
| HSAVS76  | 866888 | 5572 | 2 - 94    | 15324 | Gln-7 to Ser-19.  | S0114: 2   |  |
| HSAVT18  | 920565 | 5573 | 107 - 328 | 15325 |   | S0114: 1 and H0305: 1.                           |  |
| HSAVT24  | 577549 | 5574 | 175 - 474 | 15326 |   | S0114: 3, L0776: 1, H0521:<br>1 and H0423: 1.    |  |
| HSAVT95  | 925582 | 5575 | 38 - 232  | 15327 | Glu-39 to Lys-47.   | S0114: 1, H0306: 1 and<br>L0527: 1.              |  |
| HSAVU11  | 967490 | 5576 | 17 - 142  | 15328 |   | S0114: 2   |  |
| HSAVU14  | 920695 | 5577 | 91 - 378  | 15329 |   | S0114: 2   |  |
| HSAVW44  | 574267 | 5578 | 333 - 455 | 15330 |   | S0114: 2   |  |
| HSAVX96  | 744614 | 5579 | 49 - 282  | 15331 | Gln-4 to Lys-16.  | S0114: 1 and H0580: 1.                           |  |
| HSAVY34  | 574287 | 5580 | 3 - 221   | 15332 | Arg-34 to Glu-40.   | S0114: 3 and S0134: 1.                           |  |

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|---------|--------|------|-----------|-------|--|---|--|--|--|
| HSAVY58 | 526958 | 5581 | 36 - 176  | 15333 |  |   | S0114: 2 and H0264: 1.   |  |  |
| HSAVZ35 | 842039 | 5582 | 239 - 364 | 15334 |  |   | H0159: 1 and S0114: 1.   |  |  |
| HSAVZ65 | 574192 | 5583 | 158 - 328 | 15335 |  |   | S0114: 2   |  |  |
| HSAWA25 | 577281 | 5584 | 16 - 177  | 15336 |  | Asn-14 to His-21.                                       | H0445: 2, S0114: 1 and L0766: 1.   |  |  |
| HSAWC89 | 785988 | 5585 | 116 - 913 | 15337 |  | Asn-18 to Leu-23, Tyr-41 to Gly-46, Asp-101 to Asp-110. | H0265: 1, S0114: 1, H0421: 1 and L0596: 1.                               |  |  |
| HSAWG75 | 574223 | 5586 | 58 - 159  | 15338 |  |   | S0114: 1 and H0318: 1.   |  |  |
| HSAWH47 | 720535 | 5587 | 328 - 522 | 15339 |  | Leu-1 to Cys-7, Phe-55 to Trp-61.                       | S0114: 1, H0638: 1 and L0748: 1.   |  |  |
| HSAWI18 | 666842 | 5588 | 150 - 335 | 15340 |  | Tyr-35 to Ser-41.                                       | S0114: 1, H0444: 1 and H0543: 1.   |  |  |
| HSAWI50 | 742713 | 5589 | 2 - 226   | 15341 |  | Val-7 to Val-15.  | S0114: 1 and H0607: 1.   |  |  |
| HSAWI36 | 866874 | 5590 | 478 - 837 | 15342 |  | Thr-1 to Lys-12.  | S0114: 2, L0743: 2, L0638: 1, L0800: 1, L0659: 1, L0758: 1 and L0759: 1. |  |  |
| HSAWJ93 | 751429 | 5591 | 2 - 148   | 15343 |  |   | S0114: 1 and H0444: 1.   |  |  |
| HSAWL80 | 792893 | 5592 | 187 - 324 | 15344 |  | Val-10 to His-15, Val-35 to Leu-40.                     | S0114: 2   |  |  |
| HSAWN67 | 883825 | 5593 | 189 - 665 | 15345 |  |   | S0114: 1 and H0436: 1.   |  |  |
| HSAWT91 | 522474 | 5594 | 104 - 178 | 15346 |  |   | S0114: 1 and S0053: 1.   |  |  |
| HSAWU96 | 577267 | 5595 | 147 - 257 | 15347 |  |   | S0114: 1, H0444: 1 and H0445: 1.   |  |  |
| HSAWV18 | 666841 | 5596 | 5 - 103   | 15348 |  |   | S0114: 1, H0305: 1 and L0766: 1.   |  |  |
| HSAWY11 | 967489 | 5597 | 237 - 365 | 15349 |  |   | S0114: 1 and H0445: 1.   |  |  |
| HSAXB47 | 720536 | 5598 | 3 - 578   | 15350 |  | Gly-15 to Phe-21, Asp-79 to Glu-93, Gly-103 to Phe-111. | S0114: 1, S0426: 1 and H0521: 1.   |  |  |
| HSAXB84 | 574172 | 5599 | 117 - 416 | 15351 |  | Asp-8 to Cys-20, Arg-41 to Asp-58.                      | S0114: 2   |  |  |
| HSAXB95 | 796006 | 5600 | 2 - 328   | 15352 |  | Pro-4 to Pro-11.  | S0114: 1 and S0216: 1.   |  |  |
| HSAXC60 | 579044 | 5601 | 122 - 286 | 15353 |  |   | S0114: 1, S0134: 1 and H0457: 1.   |  |  |
| HSAXD03 | 924900 | 5602 | 162 - 254 | 15354 |  |   | S0114: 2   |  |  |

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|---------|--------|------|-----------|-------|--|-------------------------------------|--------------|--|
| HSAXD08 | 95939  | 5603 | 155 - 283 | 15355 | Pro-11 to Thr-20.  | S0114: 1 and H0341: 1.              |              |  |
| HSAXD18 | 57543  | 5604 | 97 - 2    | 15356 |  | S0114: 4                            |              |  |
| HSAXD73 | 574274 | 5605 | 178 - 396 | 15357 | Lys-12 to Leu-17,<br>Glu-53 to Cys-61.   | S0114: 2 and L0754: 1.              |              |  |
| HSAXD75 | 526777 | 5606 | 177 - 332 | 15358 | Gly-29 to Asp-36.  | S0114: 2                            |              |  |
| HSAXF03 | 924899 | 5607 | 34 - 222  | 15359 |  | S0114: 2 and L0766: 1.              |              |  |
| HSAXG18 | 574165 | 5608 | 190 - 297 | 15360 |  | S0114: 1 and H0090: 1.              |              |  |
| HSAXG30 | 574280 | 5609 | 3 - 236   | 15361 | Ser-40 to Ser-47.  | S0114: 2                            |              |  |
| HSAXI07 | 953871 | 5610 | 16 - 105  | 15362 |  | S0114: 2                            | 7q31.1-q31.2 | 126650, 126650,<br>150240, 180105,<br>222800, 246900,<br>602421, 602421,<br>602421 |
| HSAXI47 | 574159 | 5611 | 340 - 456 | 15363 |  | S0114: 1 and H0063: 1.              |              |  |
| HSAXI62 | 531114 | 5612 | 59 - 211  | 15364 | His-37 to Pro-51.  | S0114: 2                            |              |  |
| HSAXJ25 | 964753 | 5613 | 38 - 184  | 15365 | Lys-26 to Ser-32.  | S0114: 1, L0748: 1 and<br>H0445: 1. |              |  |
| HSAXL83 | 866840 | 5614 | 1 - 138   | 15366 | Thr-30 to Ala-36.  | S0114: 2                            |              |  |
| HSAXM33 | 866837 | 5615 | 1 - 291   | 15367 | Ile-18 to Pro-25,<br>Val-33 to Gln-42,<br>Phe-46 to Val-51,<br>Pro-82 to Asp-97. | S0114: 2                            |              |  |
| HSAXM34 | 526939 | 5616 | 3 - 254   | 15368 | Gly-14 to His-26.  | S0114: 2 and S0116: 1.              |              |  |
| HSAXM44 | 574173 | 5617 | 1 - 150   | 15369 |  | S0114: 2                            |              |  |
| HSAXM68 | 754061 | 5618 | 167 - 322 | 15370 |  | S0114: 2                            |              |  |
| HSAXM91 | 784470 | 5619 | 120 - 221 | 15371 | Asp-27 to Ser-34.  | S0114: 2                            |              |  |
| HSAXN51 | 574286 | 5620 | 188 - 445 | 15372 | Pro-34 to Lys-47.  | S0114: 2, S0216: 2 and<br>S0134: 1. |              |  |
| HSAXO52 | 726053 | 5621 | 419 - 547 | 15373 | Gln-32 to Asn-37.  | S0114: 1, L0586: 1 and<br>H0423: 1. |              |  |
| HSAXO53 | 727491 | 5622 | 2 - 130   | 15374 | Ile-1 to Leu-11,<br>Glu-31 to Thr-37.  | H0186: 1 and S0114: 1.              |              |  |
| HSAXO65 | 713784 | 5623 | 45 - 248  | 15375 |  | S0114: 2                            |              |  |
| HSAXP51 | 725673 | 5624 | 194 - 319 | 15376 | Thr-3 to Arg-12,<br>Arg-29 to Glu-35.  | S0114: 2 and H0581: 1.              |              |  |
| HSAXR08 | 959441 | 5625 | 192 - 521 | 15377 | Leu-3 to Ser-9.  | L0748: 2, S0114: 1, H0581:          |              |  |

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|---------|--------|------|-----------|-------|--|---|--|
| HSAXR83 | 866831 | 5626 | 33 - 362  | 15378 | Gly-105 to Ala-110.  | 1 and L0367: 1.   |  |
| HSAXS44 | 715896 | 5627 | 2 - 148   | 15379 | Pro-16 to Lys-21.  | S0114: 1 and H0305: 1.                                  |  |
| HSAYA60 | 650857 | 5628 | 1 - 342   | 15380 | Lys-30 to Phe-41.  | S0114: 2  |  |
| HSAYA80 | 751139 | 5629 | 145 - 522 | 15381 | Gly-1 to Ala-6.  | S0114: 2  |  |
| HSAYA95 | 856883 | 5630 | 145 - 339 | 15382 | Ala-1 to Gly-8,<br>Ala-19 to Pro-36.   | S0114: 2  |  |
| HSAYC17 | 663910 | 5631 | 170 - 376 | 15383 | Glu-44 to Ser-55,<br>Thr-63 to Lys-68.   | S0114: 1, H0254: 1, H0255:<br>1 and S0002: 1.           |  |
| HSAYC39 | 705409 | 5632 | 147 - 374 | 15384 | Lys-2 to Arg-7,<br>Gln-13 to Trp-24,<br>Ser-37 to Thr-44.                        | S0114: 1, L0309: 1 and<br>H0445: 1.                     |  |
| HSAYC84 | 723425 | 5633 | 219 - 437 | 15385 |  | S0114: 1 and H0436: 1.                                  |  |
| HSAYG62 | 745692 | 5634 | 75 - 275  | 15386 |  | S0114: 1, H0318: 1, L0803:<br>1, L0748: 1 and L0754: 1. |  |
| HSAYH09 | 971427 | 5635 | 3 - 206   | 15387 | Arg-22 to Gly-28,<br>Pro-41 to Pro-48,<br>Gly-56 to Ser-67.                      | S0114: 2  |  |
| HSAYH38 | 731434 | 5636 | 451 - 687 | 15388 | Ala-20 to Gly-36.  | S0114: 4, H0556: 1 and<br>H0187: 1.                     |  |
| HSAYK03 | 881282 | 5637 | 3 - 443   | 15389 | His-1 to His-6,<br>Thr-26 to Ser-31,<br>Pro-92 to Val-97,<br>Gly-114 to Gly-122. | S0114: 1, H0305: 1 and<br>H0589: 1.                     |  |
| HSAYK26 | 681730 | 5638 | 175 - 357 | 15390 | Ser-24 to His-34.  | S0114: 1 and H0305: 1.                                  |  |
| HSAYK79 | 699056 | 5639 | 153 - 266 | 15391 | Ser-1 to Asp-30.   | S0114: 2  |  |
| HSAYL46 | 720352 | 5640 | 266 - 448 | 15392 |  | S0114: 1 and H0444: 1.                                  |  |
| HSAYL64 | 765847 | 5641 | 2 - 136   | 15393 |  | S0114: 2 and L0749: 1.                                  |  |
| HSAYL72 | 951025 | 5642 | 70 - 237  | 15394 |  | S0114: 2 and H0591: 1.                                  |  |
| HSAYL93 | 920778 | 5643 | 49 - 291  | 15395 | Arg-8 to Pro-16,<br>Leu-19 to Asn-28.  | S0114: 1 and S0134: 1.                                  |  |
| HSAYM75 | 719241 | 5644 | 3 - 116   | 15396 |  | S0114: 1 and H0264: 1.                                  |  |
| HSAYM91 | 959486 | 5645 | 86 - 232  | 15397 | Lys-8 to Cys-13.   | S0114: 1 and H0318: 1.                                  |  |
| HSAYN79 | 471037 | 5646 | 276 - 434 | 15398 | Gln-5 to Leu-13.   | S0114: 2  |  |
|         |        |      |           |       |  | S0114: 1, S0002: 1, S0426:<br>1 and H0543: 1.           |  |

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| HSAYO71 | 745703 | 5647 | 156 - 329 | 15399 | Pro-21 to Gln-31.   | S0114: 2                                   |  |
| HSAYR35 | 675897 | 5648 | 75 - 191  | 15400 |   | S0114: 2                                   |  |
| HSAYS26 | 681725 | 5649 | 3 - 170   | 15401 |   | S0114: 2 and L0794: 1.                     |  |
| HSAYS54 | 730688 | 5650 | 242 - 433 | 15402 | Ser-8 to Val-13.  | S0114: 1, L0772: 1, L0766: 1 and H0423: 1. |  |
| HSAYW12 | 856909 | 5651 | 87 - 257  | 15403 | Ser-34 to Met-46.   | S0114: 1, H0255: 1 and H0423: 1.           |  |
| HSAYW75 | 866818 | 5652 | 1 - 189   | 15404 | Gly-1 to Ser-6, Ala-32 to Asp-44.                                       | S0114: 1 and H0576: 1.                     |  |
| HSAZC11 | 964994 | 5653 | 27 - 206  | 15405 | Glu-46 to Leu-51.   | S0114: 2                                   |  |
| HSAZC18 | 666442 | 5654 | 92 - 220  | 15406 |   | S0114: 2                                   |  |
| HSAZC33 | 702423 | 5655 | 166 - 270 | 15407 |   | S0114: 3                                   |  |
| HSAZC41 | 712326 | 5656 | 148 - 285 | 15408 | Pro-28 to Val-34.   | S0114: 2                                   |  |
| HSAZC69 | 757577 | 5657 | 85 - 231  | 15409 |   | S0114: 2                                   |  |
| HSAZC70 | 866814 | 5658 | 2 - 238   | 15410 |   | S0114: 3 and H0402: 1.                     |  |
| HSAZC72 | 509611 | 5659 | 196 - 366 | 15411 | Thr-1 to Ala-6.   | S0114: 3                                   |  |
| HSAZC91 | 790196 | 5660 | 122 - 286 | 15412 |   | S0114: 2                                   |  |
| HSAZD30 | 692708 | 5661 | 161 - 313 | 15413 |   | S0114: 2                                   |  |
| HSAZE47 | 887420 | 5662 | 77 - 517  | 15414 | His-10 to Ile-16, Arg-27 to Ser-34, Arg-44 to Asn-49, Tyr-77 to Cys-89. | AR050: 2, AR054: 1, AR051: 1, S0114: 2     |  |
| HSAZE66 | 725704 | 5663 | 2 - 247   | 15415 |   | S0114: 1 and S0052: 1.                     |  |
| HSAZF25 | 787070 | 5664 | 3 - 257   | 15416 | Leu-75 to Leu-81.   | S0114: 2                                   |  |
| HSAZF47 | 719615 | 5665 | 306 - 425 | 15417 |   | S0114: 1 and H0445: 1.                     |  |
| HSAZG04 | 927161 | 5666 | 1 - 180   | 15418 | Glu-1 to His-6, Ser-35 to Ala-41, His-52 to Cys-59.                     | S0114: 2                                   |  |
| HSAZG53 | 727729 | 5667 | 24 - 131  | 15419 |   | S0114: 1 and H0318: 1.                     |  |
| HSAZH64 | 730784 | 5668 | 165 - 347 | 15420 | Arg-1 to Gln-8.   | S0114: 1 and H0402: 1.                     |  |
| HSAZI04 | 927167 | 5669 | 27 - 191  | 15421 |   | S0114: 1 and H0521: 1.                     |  |
| HSAZK83 | 781717 | 5670 | 1 - 117   | 15422 |   | S0114: 2                                   |  |
| HSAZN07 | 847802 | 5671 | 158 - 370 | 15423 |   | S0114: 1 and H0421: 1.                     |  |
| HSAZP34 | 796044 | 5672 | 214 - 357 | 15424 | Gly-20 to Gln-31.   | S0114: 2                                   |  |
| HSAZQ04 | 927174 | 5673 | 2 - 187   | 15425 | Phe-42 to Gln-49.   | H0589: 2 and S0114: 1.                     |  |

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| HSMBA04 | 927420 | 5674 | 43 - 180  | 15426 | Asp-1 to Gln-7,<br>Arg-25 to Ile-32,<br>Gln-37 to Gly-46.  | S0298: 1 and S0052: 1.   |      |  |
| HSMBA53 | 727597 | 5675 | 130 - 195 | 15427 |  | S0298: 2   |      |  |
| HSMBB53 | 964887 | 5676 | 2 - 100   | 15428 |  | S0298: 1 and H0402: 1.   |      |  |
| HSMBD29 | 690390 | 5677 | 412 - 215 | 15429 |  | S0298: 1, H0581: 1 and<br>H0542: 1.  |      |  |
| HSQFR23 | 676362 | 5678 | 94 - 291  | 15430 | Asn-28 to Ser-35,<br>Arg-58 to Pro-66.   | H0641: 2, S0002: 2, L0766:<br>2, L0438: 2, L0439: 2,<br>H0657: 1, H0638: 1, H0637:<br>1, L0763: 1, L0768: 1,<br>L0794: 1, L0655: 1, H0521:<br>1, H0522: 1, L0779: 1,<br>L0777: 1 and S0026: 1. |      |  |
| HSYAD19 | 668590 | 5679 | 52 - 132  | 15431 |  | H0551: 2   | 8q11 | 600899   |
| HSYBC05 | 920174 | 5680 | 215 - 385 | 15432 | Asp-11 to His-16,<br>Asn-41 to Ser-47.   | H0341: 1, H0402: 1, S0005:<br>1, H0551: 1 and L0766: 1.  |      |  |
| HSYBF51 | 883699 | 5681 | 2 - 334   | 15433 | Leu-12 to Gly-31.  | H0551: 2   |      |  |
| HSYBL15 | 660053 | 5682 | 2 - 286   | 15434 | Pro-26 to Gly-32.  | AR061: 1, AR089: 0<br>S0212: 1, H0551: 1 and<br>L0366: 1.  | 6q23 | 107470, 107470,<br>107470, 121014,<br>142470, 156225,<br>164200, 164200,<br>207800, 601316,<br>601410, 601757,<br>602067 |
| HSYBL77 | 727842 | 5683 | 142 - 327 | 15435 | Ser-7 to Asp-12,<br>Arg-30 to Ser-41.  | H0341: 1 and H0551: 1.   |      |  |
| HSYCX75 | 870939 | 5684 | 60 - 191  | 15436 |  | H0551: 2   |      |  |
| HSYDF85 | 783730 | 5685 | 1 - 399   | 15437 | Ser-79 to Gly-86,<br>Pro-93 to Asp-99.   | H0069: 1 and H0551: 1.   |      |  |
| HSYDP04 | 970789 | 5686 | 23 - 403  | 15438 | His-3 to Ala-10,<br>Gly-22 to Glu-29,<br>Pro-53 to Pro-59,<br>Leu-106 to Glu-111,<br>Glu-119 to Asn-125. | H0457: 4, H0522: 2 and<br>H0551: 1.  |      |  |
| HTISC71 | 792728 | 5687 | 96 - 326  | 15439 |  | H0218: 3   |      |  |

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| HT2AB63 | 518444 | 5688 | 66 - 263  | 15440 | Gln-59 to Lys-66.   | H0139: 2   |                 |                           |
| HT2SA18 | 522773 | 5689 | 201 - 443 | 15441 | Ser-34 to Ala-40,<br>Asn-61 to Ala-70.  | H0220: 2, L0748: 1 and<br>L0749: 1.  |                 |                           |
| HT2SF05 | 932853 | 5690 | 231 - 467 | 15442 |   | H0220: 1 and S0053: 1.   |                 |                           |
| HT2SF45 | 522759 | 5691 | 120 - 320 | 15443 |   | H0220: 2   |                 |                           |
| HT2SG56 | 870913 | 5692 | 87 - 320  | 15444 |   | H0556: 1 and H0220: 1.   |                 |                           |
| HT2SG66 | 522753 | 5693 | 171 - 305 | 15445 | Lys-12 to Ile-25.   | H0220: 2   |                 |                           |
| HT3AG28 | 973645 | 5694 | 57 - 209  | 15446 | Tyr-1 to Glu-19.  | H0140: 3   |                 |                           |
| HT3AH13 | 527913 | 5695 | 17 - 175  | 15447 | Arg-2 to His-13.  | H0140: 2 and L0369: 1.   |                 |                           |
| HT3BA84 | 509190 | 5696 | 266 - 412 | 15448 |   | H0159: 2, H0222: 1 and<br>H0422: 1.  |                 |                           |
| HT3BB93 | 530750 | 5697 | 165 - 266 | 15449 |   | H0222: 1 and H0159: 1.   |                 |                           |
| HT3BC30 | 691009 | 5698 | 88 - 201  | 15450 | Arg-14 to Lys-30.   | H0223: 1 and H0159: 1.   |                 |                           |
| HT3BF34 | 534887 | 5699 | 67 - 189  | 15451 |   | H0222: 1, H0159: 1, H0179:<br>1 and S0053: 1.  |                 |                           |
| HT3BG05 | 932557 | 5700 | 3 - 365   | 15452 | Leu-18 to Gln-25.   | H0222: 1 and H0159: 1.   |                 |                           |
| HT3BG34 | 527779 | 5701 | 80 - 166  | 15453 |   | H0159: 2   |                 |                           |
| HT3SA07 | 954360 | 5702 | 19 - 210  | 15454 | Val-3 to Leu-9,<br>Lys-14 to Thr-19,<br>Trp-27 to Ser-32.                       | H0222: 1 and H0264: 1.   |                 |                           |
| HT3SB56 | 958400 | 5703 | 601 - 912 | 15455 | Phe-27 to Arg-34.   | H0222: 1 and H0159: 1.   | 16p13.13-p13.12 | 186580, 278760,<br>601313 |
| HT3SF46 | 522600 | 5704 | 181 - 312 | 15456 |   | H0222: 1 and H0159: 1.   |                 |                           |
| HT3SF93 | 791423 | 5705 | 207 - 527 | 15457 | Gly-7 to Met-20,<br>Pro-28 to Leu-33,<br>Met-52 to Cys-58,<br>Arg-92 to Ser-97. | H0222: 1, S0428: 1 and<br>L0601: 1.  |                 |                           |
| HT3SG30 | 522532 | 5706 | 127 - 258 | 15458 |   | H0222: 3, H0576: 1 and<br>L0779: 1.  |                 |                           |
| HT4CF32 | 887174 | 5707 | 133 - 846 | 15459 | Gly-1 to Val-16,<br>Thr-114 to Arg-119.   | AR050: 48, AR054: 34,<br>AR051: 20<br>H0141: 5, H0585: 5, L0805:<br>2, H0638: 1, H0606: 1,<br>L0369: 1, L0761: 1, L0800:<br>1, L0771: 1, L0768: 1,<br>L0766: 1 and L0806: 1. |                 |                           |

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|---------|--------|------|-----------|-------|---|---|--|--|
| HT4CL83 | 974117 | 5708 | 178 - 489 | 15460 | Val-18 to Thr-23,<br>Val-42 to Trp-49,<br>Glu-65 to Tyr-70.                     | H0585: 6 and H0141: 2.  |  |  |
| HT4CM20 | 805558 | 5709 | 195 - 449 | 15461 |   | H0585: 8 and H0141: 3.  |  |  |
| HT4FN75 | 686279 | 5710 | 2 - 127   | 15462 |   | H0585: 2  |  |  |
| HT4FS23 | 952837 | 5711 | 2 - 178   | 15463 |   | H0585: 2  |  |  |
| HT4FV06 | 935056 | 5712 | 1 - 87    | 15464 | Leu-2 to Pro-8.   | H0585: 1 and H0576: 1.  |  |  |
| HT4GF30 | 870887 | 5713 | 6 - 245   | 15465 | Thr-14 to Arg-23,<br>Gly-37 to Phe-50.  | H0585: 17, H0141: 7,<br>L0804: 4, H0641: 2, L0769:<br>2, L0800: 2, L0803: 2,<br>L0809: 2, L0731: 2, L0763:<br>1, L0761: 1, L0773: 1,<br>L0789: 1, L0747: 1, L0777: 1<br>and H0422: 1. |  |  |
| HT4GI85 | 909971 | 5714 | 38 - 526  | 15466 | Gly-115 to Arg-120.   | H0585: 9  |  |  |
| HT4SB45 | 522502 | 5715 | 118 - 399 | 15467 |   | H0224: 3  |  |  |
| HT4SE86 | 531561 | 5716 | 50 - 235  | 15468 |   | H0224: 1, H0160: 1 and<br>H0225: 1.   |  |  |
| HT4TB12 | 870955 | 5717 | 2 - 277   | 15469 |   | H0225: 2, H0224: 1 and<br>H0160: 1.   |  |  |
| HT5AD70 | 960050 | 5718 | 3 - 167   | 15470 |   | H0167: 4  |  |  |
| HT5AH76 | 921539 | 5719 | 2 - 133   | 15471 |   | H0167: 3  |  |  |
| HT5AI96 | 728624 | 5720 | 2 - 88    | 15472 |   | H0167: 2  |  |  |
| HT5EA69 | 952359 | 5721 | 12 - 488  | 15473 | Arg-9 to Trp-20,<br>Met-27 to Gly-33,<br>Gln-52 to Ile-57,<br>Gln-60 to Glu-69. | H0584: 10   |  |  |
| HT5EU04 | 531205 | 5722 | 268 - 435 | 15474 | Phe-1 to Glu-11,<br>Gly-17 to Arg-41.   | H0584: 9, H0167: 2, H0271:<br>1 and H0416: 1.   |  |  |
| HT5EU59 | 739092 | 5723 | 1 - 354   | 15475 | Arg-3 to Ala-10,<br>Pro-21 to Thr-36,<br>Gly-38 to Gly-51,<br>Arg-58 to Gly-64. | H0584: 2  |  |  |
| HT5FD31 | 697721 | 5724 | 3 - 335   | 15476 | Ala-32 to Glu-38,<br>Gln-74 to Gly-85.  | H0584: 4  |  |  |
| HTAA68  | 733636 | 5725 | 131 - 244 | 15477 | Gln-23 to Asn-29.   | H0069: 2  |  |  |



|         |        |      |           |       |   |                                     |    |
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| HTAAA74 | 960479 | 5726 | 1 - 315   | 15478 | Glu-12 to Thr-22,<br>Arg-28 to Ala-33,<br>Leu-45 to Thr-50.                     | H0069: 2 and L0592: 1.              |    |
| HTAAC05 | 932913 | 5727 | 90 - 329  | 15479 | Gly-1 to His-6.   | H0069: 5                            |    |
| HTAAG63 | 578537 | 5728 | 24 - 182  | 15480 |   | H0402: 2, L0529: 2 and<br>H0069: 1. |    |
| HTAAP36 | 629270 | 5729 | 25 - 135  | 15481 | Glu-13 to Glu-20.   | H0069: 2                            | 22 |
| HTAAP96 | 518454 | 5730 | 24 - 152  | 15482 | Cys-16 to Arg-25,<br>Arg-33 to Leu-41.  | H0069: 3 and H0635: 1.              |    |
| HTAAQ82 | 952304 | 5731 | 236 - 415 | 15483 |   | H0069: 3 and H0556: 1.              |    |
| HTAAU76 | 508527 | 5732 | 2 - 274   | 15484 | Arg-10 to Arg-17.   | H0069: 3                            |    |
| HTAAU78 | 870884 | 5733 | 76 - 129  | 15485 |   | H0069: 3                            |    |
| HTAAW11 | 961231 | 5734 | 57 - 248  | 15486 |   | H0069: 5                            |    |
| HTAAW46 | 719422 | 5735 | 3 - 122   | 15487 | Met-1 to Thr-6,<br>Pro-21 to Ser-27.  | H0069: 2                            |    |
| HTAAW81 | 535295 | 5736 | 2 - 166   | 15488 | Gln-11 to Ser-16.   | H0069: 5                            |    |
| HTAAY89 | 575304 | 5737 | 39 - 146  | 15489 |   | H0069: 3                            |    |
| HTABE51 | 960936 | 5738 | 103 - 288 | 15490 | Glu-2 to Lys-26.  | H0069: 2                            |    |
| HTABE93 | 509675 | 5739 | 95 - 259  | 15491 |   | H0069: 3                            |    |
| HTABF52 | 535399 | 5740 | 113 - 316 | 15492 | Lys-22 to Pro-28.   | H0069: 4                            |    |
| HTABF72 | 508952 | 5741 | 126 - 329 | 15493 | Arg-13 to Arg-18.   | H0069: 2                            |    |
| HTABG03 | 960931 | 5742 | 2 - 220   | 15494 | Arg-1 to Gln-7.   | H0069: 9                            |    |
| HTABG44 | 508366 | 5743 | 142 - 14  | 15495 | Ala-1 to Arg-9.   | H0069: 2                            |    |
| HTABG83 | 518355 | 5744 | 124 - 177 | 15496 |   | H0069: 2 and H0318: 1.              |    |
| HTABG87 | 940153 | 5745 | 75 - 344  | 15497 | Ser-9 to Ser-14,<br>Lys-24 to Ser-30,<br>Cys-34 to Ile-39,<br>Lys-46 to Leu-60. | H0069: 1 and H0581: 1.              |    |
| HTABJ93 | 508441 | 5746 | 3 - 263   | 15498 |   | H0069: 3                            |    |
| HTABK73 | 835945 | 5747 | 3 - 251   | 15499 | Pro-60 to Lys-68.   | H0069: 1, S0144: 1 and<br>S0142: 1. |    |
| HTABN17 | 954400 | 5748 | 3 - 89    | 15500 | Gln-16 to Ile-21.   | H0069: 8                            |    |
| HTACL04 | 925571 | 5749 | 96 - 263  | 15501 | Pro-7 to Thr-27.  | H0069: 1 and H0635: 1.              |    |
| HTACN31 | 974314 | 5750 | 280 - 408 | 15502 |   | H0069: 1 and H0635: 1.              |    |
| HTACN96 | 975073 | 5751 | 394 - 582 | 15503 |   | H0069: 3 and H0635: 2.              |    |

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| HTACP19 | 537439 | 5752 | 3 - 101   | 15504 | Thr-1 to Met-32.  | H0069: 2 and H0543: 1.           | 12q24.3-qter |
| HTACP52 | 968997 | 5753 | 200 - 433 | 15505 | Glu-67 to Arg-72.   | L0766: 2, H0069: 1 and H0625: 1. |              |
| HTACR92 | 918250 | 5754 | 2 - 271   | 15506 | Gly-10 to Gly-15,<br>Tyr-22 to Lys-31,<br>Glu-70 to Phe-76.                     | H0069: 1 and H0635: 1.           |              |
| HTACS45 | 537433 | 5755 | 57 - 122  | 15507 | Pro-15 to Gly-22.   | H0069: 2                         |              |
| HTACS46 | 537435 | 5756 | 2 - 181   | 15508 |   | H0069: 2                         |              |
| HTACT29 | 537377 | 5757 | 119 - 271 | 15509 |   | S0052: 2 and H0069: 1.           |              |
| HTACU21 | 504612 | 5758 | 63 - 143  | 15510 |   | H0069: 2                         |              |
| HTACU80 | 777608 | 5759 | 31 - 207  | 15511 |   | H0069: 1 and S0428: 1.           |              |
|         | 870869 | 9596 | 161 - 316 | 19348 | Cys-32 to Asn-38.   |                                  |              |
| HTACW17 | 961560 | 5760 | 3 - 287   | 15512 | Arg-22 to Thr-28,<br>Pro-41 to Gln-48.  | H0069: 1 and H0063: 1.           |              |
| HTACY32 | 531492 | 5761 | 290 - 445 | 15513 | Cys-14 to Glu-30.   | H0069: 1 and H0264: 1.           |              |
| HTACY49 | 557836 | 5762 | 62 - 199  | 15514 | Leu-23 to Ser-29.   | H0069: 2                         |              |
| HTADA22 | 507146 | 5763 | 1 - 297   | 15515 |   | H0069: 2                         |              |
| HTADC11 | 967577 | 5764 | 3 - 170   | 15516 | Gln-1 to Pro-6,<br>Ser-15 to Glu-30,<br>Ile-37 to Tyr-42.                       | H0069: 1, H0635: 1 and L0780: 1. |              |
| HTADH05 | 932470 | 5765 | 44 - 130  | 15517 | Arg-1 to Glu-7.   | H0069: 2                         |              |
| HTADH61 | 955245 | 5766 | 52 - 189  | 15518 |   | H0069: 2                         |              |
| HTADI11 | 964944 | 5767 | 2 - 238   | 15519 | Pro-7 to Lys-12,<br>Pro-27 to Gly-39.   | H0069: 2                         |              |
| HTADI93 | 870820 | 5768 | 2 - 172   | 15520 | Ser-45 to Ser-54.   | H0069: 1 and H0635: 1.           |              |
| HTADI25 | 537427 | 5769 | 58 - 264  | 15521 | Thr-56 to Thr-63.   | H0069: 2                         |              |
| HTADI36 | 773764 | 5770 | 29 - 391  | 15522 | Ser-9 to Ala-16,<br>Lys-19 to Gln-31,<br>Pro-63 to Trp-68,<br>Pro-90 to Gly-98. | H0069: 2                         |              |
| HTADK40 | 537423 | 5771 | 306 - 461 | 15523 |   | H0069: 2                         |              |
| HTADM61 | 550342 | 5772 | 190 - 432 | 15524 | Phe-8 to Cys-15.  | H0069: 2 and H0556: 1.           |              |
| HTADQ83 | 734996 | 5773 | 56 - 241  | 15525 | Ser-40 to Phe-45,<br>Pro-51 to Arg-58.  | H0069: 1 and S0142: 1.           |              |
| HTADQ93 | 537418 | 5774 | 1 - 69    | 15526 |   | H0069: 2                         |              |

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| HTADR41 | 934435 | 5775 | 73 - 225  | 15527 |  |   | H0069: 2   |  |
| HTADW69 | 537428 | 5776 | 3 - 101   | 15528 |  |   | H0069: 2   |  |
| HTAED78 | 761591 | 5777 | 188 - 319 | 15529 |  |   | H0069: 2   |  |
| HTAEF32 | 927101 | 5778 | 217 - 372 | 15530 |  | Glu-1 to Ile-6.   | H0069: 2   |  |
| HTAEH74 | 974303 | 5779 | 234 - 377 | 15531 |  |   | H0635: 2 and H0069: 1.   |  |
| HTAEJ77 | 930978 | 5780 | 3 - 428   | 15532 |  | His-1 to Arg-20.  | H0069: 2 and H0635: 1.   |  |
| HTAEK78 | 773763 | 5781 | 303 - 494 | 15533 |  | Glu-1 to Pro-7.   | H0069: 2   |  |
| HTAEL90 | 958220 | 5782 | 1 - 147   | 15534 |  |   | H0069: 1, H0457: 1 and S0426: 1.                                 |  |
| HTAEO84 | 537374 | 5783 | 3 - 104   | 15535 |  |   | H0069: 2   |  |
| HTAER18 | 537421 | 5784 | 71 - 205  | 15536 |  |   | H0069: 2   |  |
| HTAES82 | 537373 | 5785 | 126 - 254 | 15537 |  | Asp-10 to Asp-16,<br>Gln-29 to Ala-35.                      | H0069: 3   |  |
| HTAET86 | 969532 | 5786 | 2 - 298   | 15538 |  |   | H0069: 1 and H0635: 1.   |  |
| HTAEU76 | 767963 | 5787 | 311 - 568 | 15539 |  | Ser-1 to Glu-10,<br>Ser-53 to Phe-59.                       | H0069: 1 and H0264: 1.   |  |
| HTAEV65 | 838803 | 5788 | 169 - 402 | 15540 |  |   | H0069: 1, H0635: 1 and L0523: 1.                                 |  |
| HTAEW87 | 971526 | 5789 | 243 - 329 | 15541 |  | Ile-1 to Gln-7.   | H0069: 4   |  |
| HTAEW95 | 780986 | 5790 | 28 - 462  | 15542 |  |   | H0584: 2, H0265: 1 and H0069: 1.                                 |  |
| HTAEX66 | 881092 | 5791 | 209 - 487 | 15543 |  | Arg-65 to Asp-70.   | H0069: 5   |  |
| HTAFA06 | 934570 | 5792 | 107 - 322 | 15544 |  | Ala-29 to Tyr-45,<br>Gly-53 to Ala-60.                      | H0069: 2   |  |
| HTAFA66 | 868433 | 5793 | 167 - 454 | 15545 |  | Pro-38 to Trp-51,<br>Asp-53 to Gly-59,<br>Thr-70 to Trp-78. | H0069: 1 and H0581: 1.   |  |
| HTAFC37 | 973085 | 5794 | 359 - 93  | 15546 |  | Gln-1 to Gly-7,<br>Pro-16 to Asp-28,<br>Arg-66 to Asp-73.   | H0069: 2, L0794: 1, L0803: 1 and L0758: 1.                       |  |
| HTAFC76 | 767976 | 5795 | 46 - 303  | 15547 |  | Asp-68 to Gly-80.   | H0069: 2   |  |
| HTAFD63 | 744409 | 5796 | 68 - 21   | 15548 |  |   | H0069: 2   |  |
| HTAFE69 | 944409 | 5797 | 25 - 366  | 15549 |  | Lys-14 to Glu-32.   | AR061: 7, AR089: 5<br>H0069: 3, L0794: 1, L0803: 1 and L0758: 1. |  |

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| HTAFE90 | 787604 | 5798 | 134 - 232 | 15550 |  |  | H0069: 1 and H0090: 1.              |  |  |
| HTAFF11 | 933028 | 5799 | 99 - 338  | 15551 | Trp-36 to Tyr-58,<br>Ser-74 to Asp-80.   |  | H0069: 2                            |  |  |
| HTAFF76 | 767968 | 5800 | 226 - 393 | 15552 |  |  | H0069: 2                            |  |  |
| HTAFG52 | 974338 | 5801 | 23 - 283  | 15553 |  |  | H0069: 1, H0635: 1 and<br>S0216: 1. |  |  |
| HTAFG58 | 870854 | 5802 | 3 - 239   | 15554 | Gln-2 to Leu-10.   |  | H0069: 1 and H0635: 1.              |  |  |
| HTAGA71 | 870853 | 5803 | 137 - 304 | 15555 |  |  | H0069: 1 and H0635: 1.              |  |  |
| HTAGB89 | 974060 | 5804 | 258 - 371 | 15556 |  |  | H0635: 2 and H0069: 1.              |  |  |
| HTAGC91 | 963125 | 5805 | 164 - 397 | 15557 | Gln-17 to Gly-23.  |  | H0635: 4                            |  |  |
| HTAGI29 | 925699 | 5806 | 155 - 334 | 15558 |  |  | H0556: 1, H0635: 1 and<br>S0474: 1. |  |  |
| HTAGI53 | 936117 | 5807 | 1 - 198   | 15559 | Gly-7 to Gly-16.   |  | H0271: 2, H0255: 1 and<br>H0635: 1. |  |  |
| HTAGL61 | 963182 | 5808 | 1 - 363   | 15560 | Ala-1 to Gln-11,<br>Lys-30 to Lys-40,<br>Arg-52 to His-73,<br>Asp-109 to Leu-114.  |  | H0635: 3                            |  |  |
| HTAGN04 | 926501 | 5809 | 294 - 473 | 15561 | Lys-46 to Arg-52.  |  | H0635: 2 and L0748: 1.              |  |  |
| HTAGV46 | 847777 | 5810 | 2 - 238   | 15562 | Asp-54 to Ser-63,<br>Ser-65 to Gln-79.   |  | H0635: 2 and S0116: 1.              |  |  |
| HTAGV49 | 836078 | 5811 | 130 - 435 | 15563 | Lys-13 to Leu-20,<br>Ser-39 to Arg-46.   |  | H0635: 2 and L0766: 1.              |  |  |
| HTAGZ11 | 965867 | 5812 | 104 - 280 | 15564 | Cys-37 to His-45.  |  | S0114: 1 and H0635: 1.              |  |  |
| HTAHL17 | 860919 | 5813 | 2 - 292   | 15565 | Pro-7 to Gly-15,<br>Pro-37 to Gly-42.  |  | H0635: 1 and H0271: 1.              |  |  |
| HTAHL49 | 934013 | 5814 | 243 - 494 | 15566 | Asn-52 to Gln-59.  |  | H0635: 2 and H0069: 1.              |  |  |
| HTAHL12 | 920332 | 5815 | 249 - 458 | 15567 |  |  | H0635: 1 and H0422: 1.              |  |  |
| HTAHL28 | 974030 | 5816 | 3 - 359   | 15568 | Val-2 to Pro-7,<br>Ala-17 to Gly-24,<br>Arg-26 to Leu-32,<br>Cys-36 to Arg-49,<br>Arg-56 to Gly-67,<br>Asn-69 to Trp-76,<br>Gly-79 to Pro-89,<br>Tyr-108 to Ile-113. |  | H0635: 3                            |  |  |

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| HTAHL45 | 908949 | 5817 | 139 - 663 | 15569 | Leu-14 to Lys-20,<br>Glu-28 to Ala-67,<br>Pro-81 to Gln-88,<br>Leu-128 to Lys-137. | AR061: 314, AR089: 160<br>H0635: 2 and L0439: 2.                     |  |  |
| HTAHL76 | 974300 | 5818 | 2 - 202   | 15570 |  | H0635: 2 and H0556: 1.   |  |  |
| HTAHN29 | 923115 | 5819 | 317 - 580 | 15571 | Gly-1 to Cys-17,<br>His-59 to Pro-69,<br>Arg-82 to Ile-88.                         | H0556: 1, H0635: 1 and<br>H0543: 1.                                  |  |  |
| HTAHQ22 | 870831 | 5820 | 5 - 289   | 15572 | Leu-8 to Ser-16,<br>Ser-25 to Glu-32,<br>Gly-71 to Lys-79.                         | H0635: 2   |  |  |
| HTAHQ94 | 839505 | 5821 | 248 - 520 | 15573 |  | H0635: 2   |  |  |
| HTAHR03 | 922772 | 5822 | 267 - 380 | 15574 |  | H0069: 1 and H0635: 1.   |  |  |
| HTAHR06 | 934062 | 5823 | 203 - 358 | 15575 | Ser-7 to Gln-18,<br>Pro-44 to Asp-51.  | H0457: 2, H0635: 1 and<br>H0445: 1.                                  |  |  |
| HTAHS10 | 963183 | 5824 | 9 - 218   | 15576 | Asn-6 to His-12.   | H0635: 3   |  |  |
| HTAHS21 | 960795 | 5825 | 3 - 380   | 15577 | Cys-12 to Pro-17,<br>Arg-45 to Cys-54,<br>Glu-58 to Ile-67,<br>Val-100 to Gln-105. | H0069: 1 and H0635: 1.   |  |  |
| HTAHV04 | 926747 | 5826 | 3 - 449   | 15578 |  | H0635: 2, L0746: 2, L0770:<br>1, L0769: 1, L0659: 1 and<br>L0745: 1. |  |  |
| HTAIB11 | 965835 | 5827 | 2 - 118   | 15579 |  | H0635: 2   |  |  |
| HTAIC05 | 930951 | 5828 | 622 - 819 | 15580 | Asn-10 to Ser-16.  | L0749: 5, H0635: 1, S0426:<br>1 and L0748: 1.                        |  |  |
| HTAID04 | 926541 | 5829 | 200 - 403 | 15581 | Glu-32 to Ser-38.  | H0069: 2 and H0635: 1.   |  |  |
| HTAIF70 | 974062 | 5830 | 2 - 214   | 15582 |  | H0069: 2, H0635: 1 and<br>H0179: 1.                                  |  |  |
| HTAIF78 | 870785 | 5831 | 22 - 363  | 15583 | Leu-1 to Gly-8,<br>Ser-74 to Gly-84,<br>Pro-97 to Gly-108.                         | H0556: 3, H0069: 1, H0635:<br>1, H0318: 1, S0344: 1 and<br>L0766: 1. |  |  |
| HTAIK75 | 870815 | 5832 | 282 - 470 | 15584 | Pro-8 to Val-15.   | H0635: 1 and H0542: 1.   |  |  |
| HTAIQ39 | 921729 | 5833 | 19 - 249  | 15585 |  | H0069: 1 and H0635: 1.   |  |  |
| HTAIQ75 | 870804 | 5834 | 3 - 281   | 15586 | Arg-9 to Gly-15,<br>Ser-57 to Gln-68.  | H0635: 2   |  |  |

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| HTAIR54 | 870814 | 5835 | 106 - 327 | 15587 | Thr-33 to Phe-38.  | L0600: 2, H0635: 1 and H0264: 1.           | 9q11-q22 | 229600, 264300, 600542, 602014, 602088 |
| HTAIU80 | 968234 | 5836 | 23 - 205  | 15588 | Ser-30 to Asp-36.  | H0635: 1 and H0271: 1.                     |          |  |
| HTAIV79 | 870874 | 5837 | 63 - 368  | 15589 | Pro-4 to Leu-14, Ser-43 to Pro-49.                                     | H0069: 1 and H0635: 1.                     |          |  |
| HTAJG31 | 926731 | 5838 | 282 - 452 | 15590 | His-18 to Cys-24.  | H0635: 2                                   |          |  |
| HTAJG65 | 975260 | 5839 | 152 - 355 | 15591 | His-59 to Leu-66.  | H0635: 3 and H0069: 1.                     |          |  |
| HTAJI01 | 914899 | 5840 | 160 - 2   | 15592 |  | H0635: 2                                   |          |  |
| HTAJN08 | 958057 | 5841 | 2 - 160   | 15593 |  | H0635: 2                                   |          |  |
| HTAJR80 | 975309 | 5842 | 183 - 380 | 15594 |  | H0635: 3                                   |          |  |
| HTBAA95 | 715044 | 5843 | 2 - 478   | 15595 | His-1 to Glu-14, Thr-22 to Ser-28, Pro-36 to Val-44, Gln-80 to Asp-91. | H0075: 1 and H0521: 1.                     |          |  |
| HTDAA07 | 870742 | 5844 | 3 - 209   | 15596 | Asp-1 to Gly-9.  | H0486: 1 and H0477: 1.                     |          |  |
| HTDAC37 | 575842 | 5845 | 3 - 227   | 15597 | Ser-62 to Glu-75.  | H0477: 2 and L0041: 1.                     |          |  |
| HTDAC77 | 772242 | 5846 | 51 - 233  | 15598 |  | H0556: 1 and H0477: 1.                     |          |  |
| HTDAE25 | 714359 | 5847 | 506 - 694 | 15599 | Leu-19 to His-29.  | H0635: 1 and H0477: 1.                     |          |  |
| HTDAE43 | 889311 | 5848 | 2 - 169   | 15600 |  | H0457: 1 and H0477: 1.                     |          |  |
|         | 971582 | 9597 | 390 - 638 | 19349 | Pro-27 to Gly-34.  |  |          |  |
| HTDAF65 | 927842 | 5849 | 415 - 672 | 15601 | Gly-4 to Tyr-10.   | H0581: 2, H0477: 1, H0272: 1 and L0766: 1. |          |  |
| HTDAG18 | 975317 | 5850 | 236 - 520 | 15602 | Val-7 to Gly-19, Thr-51 to Thr-56, Ser-62 to Gly-72.                   | H0069: 2, H0635: 1 and H0477: 1.           |          |  |
| HTDAI42 | 576013 | 5851 | 46 - 180  | 15603 | Asn-35 to Ser-40.  | H0477: 1 and H0422: 1.                     |          |  |
| HTGAL23 | 574100 | 5852 | 96 - 308  | 15604 |  | S0134: 2 and L0594: 1.                     |          |  |
| HTGAM06 | 935798 | 5853 | 2 - 298   | 15605 | Ile-12 to Thr-17.  | S0134: 2                                   |          |  |
| HTGAM26 | 682040 | 5854 | 2 - 175   | 15606 | Ile-1 to Phe-13, Leu-16 to Arg-33, Ser-45 to Ser-50.                   | S0134: 1 and H0341: 1.                     |          |  |
| HTGAM42 | 578797 | 5855 | 31 - 126  | 15607 |  | S0134: 2                                   |          |  |
| HTGAN20 | 578804 | 5856 | 1 - 327   | 15608 | Gly-1 to Pro-13, Lys-20 to Val-33, Pro-74 to Glu-84.                   | S0134: 2                                   |          |  |

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|---------|--------|------|-----------|-------|--|---|------|------------------------------------|
| HTGAO17 | 876650 | 5857 | 3 - 569   | 15609 | Arg-41 to Asn-46,<br>Pro-96 to Lys-102,<br>Ala-122 to Glu-127. | S0134: 1, T0042: 1 and<br>H0543: 1.                     |      |                                    |
| HTGAR40 | 664270 | 5858 | 67 - 216  | 15610 | Glu-17 to Ile-29.  | S0134: 2  |      |                                    |
| HTGAR72 | 574681 | 5859 | 1 - 291   | 15611 | Gly-1 to Cys-8,<br>Glu-11 to Gly-19.                           | S0134: 1 and H0271: 1.                                  |      |                                    |
| HTGAS32 | 835534 | 5860 | 258 - 458 | 15612 | Gly-15 to Glu-20,<br>Gly-24 to Cys-30.                         | S0134: 1, L0623: 1, H0087:<br>1, H0445: 1 and L0599: 1. |      |                                    |
| HTGAT93 | 791508 | 5861 | 1 - 153   | 15613 |  | S0134: 1 and H0436: 1.                                  |      |                                    |
| HTGAV59 | 870798 | 5862 | 241 - 420 | 15614 | Pro-11 to Thr-19.  | S0134: 3  |      |                                    |
| HTGAW37 | 752829 | 5863 | 2 - 172   | 15615 |  | S0134: 1 and H0318: 1.                                  |      |                                    |
| HTGAW75 | 572404 | 5864 | 201 - 422 | 15616 | Thr-1 to Ser-8,<br>Gly-13 to Lys-19.                           | S0134: 1 and H0179: 1.                                  |      |                                    |
| HTGAX19 | 782877 | 5865 | 46 - 294  | 15617 | Ser-35 to Thr-42.  | S0134: 1, H0581: 1 and<br>H0576: 1.                     |      |                                    |
| HTGAY36 | 923716 | 5866 | 122 - 319 | 15618 |  | S0134: 1 and H0576: 1.                                  |      |                                    |
| HTGAY79 | 775299 | 5867 | 2 - 208   | 15619 |  | S0134: 1 and H0522: 1.                                  |      |                                    |
| HTGAZ62 | 870414 | 5868 | 345 - 157 | 15620 |  | S0134: 2  |      |                                    |
| HTGAZ79 | 584717 | 5869 | 13 - 183  | 15621 |  | S0134: 1, T0041: 1 and<br>L0748: 1.                     |      |                                    |
| HTGBE33 | 685648 | 5870 | 24 - 332  | 15622 | Ala-22 to Phe-28.  | S0114: 1 and S0134: 1.                                  |      |                                    |
| HTGBE76 | 954599 | 5871 | 287 - 613 | 15623 | Val-95 to Arg-101.   | H0341: 2, S0134: 1, L0759:<br>1 and H0543: 1.           |      |                                    |
| HTGBF16 | 572499 | 5872 | 184 - 420 | 15624 | Ser-33 to Leu-45.  | L0748: 3, S0134: 1 and<br>H0271: 1.                     |      |                                    |
| HTGBF62 | 753962 | 5873 | 53 - 298  | 15625 |  | S0134: 1 and S0002: 1.                                  |      |                                    |
| HTGBF90 | 786611 | 5874 | 2 - 217   | 15626 |  | S0134: 1, H0581: 1 and<br>H0543: 1.                     |      |                                    |
| HTGBG55 | 966903 | 5875 | 3 - 164   | 15627 | Pro-18 to Ala-33.  | S0134: 1, L0779: 1 and<br>H0543: 1.                     |      |                                    |
| HTGBH18 | 579103 | 5876 | 102 - 260 | 15628 | Glu-9 to Cys-15,<br>His-45 to Arg-53.                          | S0134: 1 and S0116: 1.                                  |      |                                    |
| HTGBH55 | 735751 | 5877 | 83 - 595  | 15629 |  | S0278: 2 and S0134: 1.                                  |      |                                    |
| HTGBI93 | 787110 | 5878 | 3 - 221   | 15630 | Arg-37 to Leu-42.  | S0134: 1 and H0305: 1.                                  |      |                                    |
| HTGBI55 | 579005 | 5879 | 181 - 357 | 15631 |  | S0134: 1 and H0354: 1.                                  | Xq28 | 300031, 300044,<br>300048, 300049, |

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|---------|--------|------|-----------|-------|--|------------------------|--|--|--|
|         |        |      |           |       |  |                        |  |  | 300049, 300055,<br>300100, 300100,<br>300104, 300126,<br>301201, 301590,<br>302060, 302060,<br>302060, 302060,<br>302960, 303700,<br>303800, 303900,<br>304800, 305900,<br>305900, 305900,<br>306700, 306995,<br>308310, 308840,<br>308840, 308840,<br>309200, 309548,<br>309620, 309900,<br>310300, 310400,<br>310460, 310460,<br>311300, 311510,<br>314300, 314400 |
| HTGBK66 | 772325 | 5880 | 78 - 341  | 15632 | Pro-8 to Trp-15.   | S0134: 2               |  |  |  |
| HTGBL34 | 572643 | 5881 | 66 - 281  | 15633 | Ala-29 to Arg-41.  | S0134: 1 and H0090: 1. |  |  |  |
| HTGBL72 | 576641 | 5882 | 35 - 238  | 15634 |  | S0134: 1 and H0423: 1. |  |  |  |
| HTGBN09 | 506500 | 5883 | 3 - 215   | 15635 | Asn-32 to His-39.  | S0134: 2               |  |  |  |
| HTGBN27 | 683557 | 5884 | 222 - 145 | 15636 |  | S0134: 2 and S0002: 1. |  |  |  |
| HTGBN57 | 578806 | 5885 | 1 - 270   | 15637 |  | S0134: 2               |  |  |  |
| HTGBP65 | 870406 | 5886 | 54 - 239  | 15638 | Glu-28 to Ser-33.  | S0134: 2               |  |  |  |
| HTGBR20 | 669797 | 5887 | 144 - 311 | 15639 | Lys-32 to Gln-37.  | S0134: 1 and S0344: 1. |  |  |  |
| HTGBR93 | 973978 | 5888 | 3 - 272   | 15640 |  | S0134: 3               |  |  |  |
| HTGBS02 | 920445 | 5889 | 91 - 234  | 15641 |  | S0134: 2               |  |  |  |
| HTGBY51 | 506502 | 5890 | 22 - 228  | 15642 | Gln-54 to Glu-60.  | S0134: 2               |  |  |  |
| HTGCD10 | 964884 | 5891 | 82 - 288  | 15643 | Leu-27 to Ser-33,<br>Gln-46 to Ala-53.                     | S0134: 1 and S0218: 1. |  |  |  |
| HTGCD85 | 579028 | 5892 | 121 - 327 | 15644 |  | S0134: 2               |  |  |  |
| HTGCF49 | 723090 | 5893 | 122 - 559 | 15645 | His-1 to Gly-19,<br>Ala-26 to Gly-31,<br>Pro-48 to Ser-57, | S0134: 1 and H0444: 1. |  |  |  |



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| HTGCG89 | 894005 | 5894 | 3 - 155    | 15646 | Ala-83 to Asn-117.   | S0134: 1 and H0576: 1.   |  |
| HTGCH58 | 909849 | 5895 | 408 - 1103 | 15647 | Asn-1 to Val-6.<br>Arg-25 to Glu-32,<br>Ser-73 to Lys-85,<br>Asp-138 to Glu-145,<br>Glu-164 to Asp-174,<br>Leu-185 to Lys-194. | AR089: 2, AR061: 1<br>L0766: 2, L0776: 2, L0740:<br>2, S0134: 1, H0635: 1,<br>L0370: 1, S0142: 1, L0792:<br>1, H0521: 1, H0522: 1,<br>L0779: 1 and L0366: 1. |  |
| HTGCI80 | 588166 | 5896 | 79 - 243   | 15648 |  | S0134: 1, L0471: 1, L0753:<br>1 and H0543: 1.  |  |
| HTGCI54 | 571389 | 5897 | 88 - 276   | 15649 | Thr-1 to Thr-6.  | S0134: 2 and S0114: 1.   |  |
| HTGCL06 | 935789 | 5898 | 204 - 338  | 15650 |  | S0134: 1 and H0580: 1.   |  |
| HTGCL40 | 578774 | 5899 | 100 - 219  | 15651 |  | S0134: 2   |  |
| HTGCL94 | 747573 | 5900 | 1 - 183    | 15652 |  | AR054: 10, AR050: 7,<br>AR051: 3<br>S0134: 2   |  |
| HTGCM13 | 913673 | 5901 | 1 - 132    | 15653 |  | S0134: 2   |  |
| HTGCM90 | 678122 | 5902 | 80 - 358   | 15654 | Glu-71 to Val-77.  | S0114: 1 and S0134: 1.   |  |
| HTGCM92 | 578768 | 5903 | 1 - 138    | 15655 | Ser-13 to Arg-23.  | S0134: 2   |  |
| HTGCP76 | 770143 | 5904 | 10 - 144   | 15656 | Gln-1 to Trp-25.   | S0134: 1 and H0421: 1.   |  |
| HTGCQ15 | 880293 | 5905 | 128 - 391  | 15657 |  | S0134: 1, S0218: 1, S0002:<br>1 and L0748: 1.  |  |
| HTGCQ19 | 974433 | 5906 | 70 - 279   | 15658 | Pro-41 to Cys-46.  | S0134: 2 and H0543: 1.   |  |
| HTGCS20 | 933260 | 5907 | 2 - 205    | 15659 |  | S0134: 1 and H0486: 1.   |  |
| HTGCS81 | 921650 | 5908 | 15 - 167   | 15660 |  | S0134: 2   |  |
| HTGCT54 | 960912 | 5909 | 55 - 204   | 15661 | Asn-15 to Trp-34.  | S0134: 1 and H0543: 1.   |  |
| HTGCT57 | 496297 | 5910 | 49 - 213   | 15662 |  | S0134: 1 and S0002: 1.   |  |
| HTGCU25 | 679403 | 5911 | 124 - 279  | 15663 | Arg-1 to Phe-7.  | S0134: 1 and S0002: 1.   |  |
| HTGCU28 | 713353 | 5912 | 43 - 165   | 15664 | Gly-1 to Lys-15.   | S0134: 1 and S0218: 1.   |  |
| HTGDG28 | 735002 | 5913 | 99 - 266   | 15665 | Asn-20 to Gly-28.  | S0134: 2 and S0114: 1.   |  |
| HTGDG63 | 579127 | 5914 | 113 - 298  | 15666 | Phe-11 to Glu-25,<br>Lys-33 to Arg-51.   | S0134: 2 and S0114: 1.   |  |
| HTGDG70 | 757191 | 5915 | 75 - 230   | 15667 | Gly-2 to Glu-7.  | S0134: 2   |  |
| HTGDG75 | 769010 | 5916 | 9 - 116    | 15668 |  | S0134: 1 and H0444: 1.   |  |
| HTGDM56 | 733405 | 5917 | 240 - 365  | 15669 | Gly-12 to Val-29.  | S0134: 1 and S0218: 1.   |  |

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| HTGDM65 | 967158 | 5918 | 2 - 355    | 15670 | Gln-20 to Ala-26,<br>Thr-58 to Lys-65,<br>Gly-83 to Glu-89.   | S0114: 2, S0134: 1 and<br>H0255: 1.  |  |
| HTGDS63 | 958651 | 5919 | 161 - 373  | 15671 | Pro-10 to Arg-15.   | S0134: 1 and S0218: 1.   |  |
| HTGDS88 | 659766 | 5920 | 71 - 208   | 15672 | Ile-20 to Thr-25.   | S0134: 1 and S0218: 1.   |  |
| HTGDT91 | 974962 | 5921 | 306 - 638  | 15673 | Pro-12 to Asn-20,<br>Asp-43 to Arg-49.  | AR089: 0, AR061: 0<br>S0134: 1 and H0069: 1.                                   |  |
| HTGDU57 | 712249 | 5922 | 270 - 536  | 15674 | Gln-25 to Val-30.   | H0543: 2 and S0134: 1.   |  |
| HTGDV50 | 708605 | 5923 | 336 - 464  | 15675 |   | S0134: 1 and H0090: 1.   |  |
| HTGDW16 | 661477 | 5924 | 322 - 516  | 15676 | Arg-1 to Lys-7.   | S0134: 2 and L0599: 1.   |  |
| HTGDW40 | 710759 | 5925 | 50 - 220   | 15677 |   | S0134: 3, H0556: 1 and<br>S0216: 1.  |  |
| HTGDW96 | 967030 | 5926 | 208 - 1356 | 15678 | Arg-157 to Asn-172,<br>Val-179 to Leu-185,<br>Arg-206 to Ile-215,<br>Ser-232 to Thr-241,<br>Glu-374 to Pro-379. | AR089: 10, AR061: 8<br>S0134: 1, S0278: 1, S0144:<br>1, S0344: 1 and H0423: 1. |  |
| HTGDX29 | 883517 | 5927 | 169 - 462  | 15679 | His-20 to Cys-27,<br>Ala-40 to Ile-54.  | S0134: 1 and S0426: 1.   |  |
| HTGEB95 | 725254 | 5928 | 137 - 397  | 15680 | Glu-8 to Gln-13,<br>Glu-43 to Ser-53.   | L0776: 6, H0591: 2, S0218:<br>1, L0805: 1, H0521: 1 and<br>H0543: 1.           |  |
| HTGED32 | 698776 | 5929 | 612 - 773  | 15681 | Leu-13 to Pro-29.   | S0218: 1 and H0306: 1.   |  |
| HTGED54 | 729223 | 5930 | 1 - 462    | 15682 |   | S0114: 1 and S0218: 1.   |  |
| HTGED59 | 711417 | 5931 | 3 - 182    | 15683 |   | S0218: 1 and H0306: 1.   |  |
| HTGED69 | 754761 | 5932 | 35 - 169   | 15684 |   | S0134: 1 and S0218: 1.   |  |
| HTGEF77 | 771825 | 5933 | 337 - 498  | 15685 | Leu-13 to Phe-20,<br>Leu-28 to Gly-46.  | H0556: 1 and S0218: 1.   |  |
| HTGEF78 | 769764 | 5934 | 1 - 147    | 15686 |   | S0218: 2   |  |
| HTGEG76 | 769765 | 5935 | 3 - 212    | 15687 |   | S0218: 1 and H0521: 1.   |  |
| HTGEL46 | 685425 | 5936 | 323 - 457  | 15688 |   | AR089: 0, AR061: 0<br>S0218: 1, H0264: 1 and<br>S0053: 1.                      |  |
| HTGEL54 | 728905 | 5937 | 166 - 384  | 15689 | Thr-41 to Asp-58.   | S0218: 2   |  |
| HTGEL55 | 684871 | 5938 | 45 - 302   | 15690 | His-25 to Ala-37.   | S0114: 1 and S0218: 1.   |  |
| HTGEO46 | 674409 | 5939 | 268 - 417  | 15691 | Pro-9 to Asp-21.  | S0218: 1 and H0436: 1.   |  |

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|---------|--------|------|-----------|-------|---|-------------------------------------|--|
| HTGEO86 | 703733 | 5940 | 57 - 272  | 15692 | Arg-1 to Ser-11,<br>Asp-21 to Leu-29.   | S0218: 2                            |  |
| HTGEO94 | 723097 | 5941 | 422 - 622 | 15693 |   | S0218: 1 and H0063: 1.              |  |
| HTGEP20 | 799683 | 5942 | 13 - 276  | 15694 | Ser-3 to Ser-10,<br>Pro-37 to Thr-44,<br>Phe-67 to Gln-74.                      | H0264: 2 and S0218: 1.              |  |
| HTGEP92 | 789681 | 5943 | 44 - 352  | 15695 |   | S0218: 1 and S0428: 1.              |  |
| HTGEQ11 | 967047 | 5944 | 3 - 311   | 15696 | Arg-1 to Gly-8,<br>Pro-26 to Gly-34.  | AR089: 1, AR061: 1<br>S0218: 2      |  |
| HTGEQ34 | 703443 | 5945 | 27 - 161  | 15697 | Lys-16 to Asn-23.   | S0218: 2                            |  |
| HTGEQ40 | 711181 | 5946 | 1 - 69    | 15698 |   | S0218: 2                            |  |
| HTGEQ61 | 741828 | 5947 | 39 - 218  | 15699 | Lys-28 to Asn-35.   | S0218: 1, H0444: 1 and<br>H0422: 1. |  |
| HTGEQ68 | 753031 | 5948 | 178 - 330 | 15700 | Val-23 to Pro-31.   | S0218: 2                            |  |
| HTGER72 | 683469 | 5949 | 96 - 215  | 15701 |   | S0218: 1 and S0053: 1.              |  |
| HTGET46 | 719048 | 5950 | 1 - 270   | 15702 | Gly-1 to Cys-6,<br>Leu-18 to Lys-26,<br>Glu-33 to Arg-43,<br>Ile-63 to Ile-82.  | S0218: 2 and H0580: 1.              |  |
| HTGET82 | 778928 | 5951 | 158 - 310 | 15703 |   | S0218: 1 and H0521: 1.              |  |
| HTGEU06 | 935470 | 5952 | 3 - 128   | 15704 |   | S0114: 1 and S0218: 1.              |  |
| HTGFC20 | 668924 | 5953 | 2 - 232   | 15705 | Gln-8 to Asn-17,<br>Asp-24 to Gln-30,<br>Arg-41 to Cys-48,<br>Ala-71 to Phe-77. | S0218: 1 and H0255: 1.              |  |
| HTGFC70 | 757193 | 5954 | 206 - 364 | 15706 |   | S0218: 2                            |  |
| HTGFK43 | 669222 | 5955 | 3 - 323   | 15707 | Asp-5 to Thr-13.  | S0218: 2 and L0758: 1.              |  |
| HTGFN46 | 974106 | 5956 | 313 - 501 | 15708 | Leu-1 to Cys-7.   | S0218: 4                            |  |
| HTGFO51 | 866957 | 5957 | 2 - 166   | 15709 | Ser-1 to Cys-8.   | S0218: 2 and S0114: 1.              |  |
| HTGFO75 | 767032 | 5958 | 53 - 280  | 15710 | His-1 to Lys-6,<br>Val-45 to Tyr-54.  | H0265: 1 and S0218: 1.              |  |
| HTGFP07 | 952555 | 5959 | 147 - 341 | 15711 | Val-9 to Val-15,<br>Trp-44 to Arg-54.   | S0218: 2, L0369: 1 and<br>L0376: 1. |  |
| HTGFP49 | 722626 | 5960 | 90 - 239  | 15712 | Met-27 to Ser-33.   | S0218: 2                            |  |
| HTGFP59 | 738974 | 5961 | 31 - 135  | 15713 | Tyr-10 to Gly-17.   | S0218: 2                            |  |
| HTGFP62 | 742908 | 5962 | 32 - 223  | 15714 |   | S0218: 2                            |  |

|         |        |      |           |       |   |   |  |
|---------|--------|------|-----------|-------|---|---|--|
| HTGFR80 | 810302 | 5963 | 27 - 257  | 15715 | Leu-70 to Ser-76.   | S0134: 1 and S0218: 1.                        |  |
| HTGFW29 | 690276 | 5964 | 1 - 249   | 15716 | Gly-20 to Pro-27.   | S0218: 1 and H0264: 1.                        |  |
| HTGFW63 | 744678 | 5965 | 167 - 556 | 15717 |   | L0747: 2, S0218: 1 and H0423: 1.              |  |
| HTGFX16 | 656777 | 5966 | 3 - 329   | 15718 | Pro-33 to Ala-46,<br>Asn-54 to Val-69,<br>Pro-73 to Ser-78,<br>Glu-93 to Pro-101. | S0218: 1 and H0581: 1.                        |  |
| HTGFX82 | 779055 | 5967 | 75 - 278  | 15719 | Asn-34 to Lys-40.   | S0218: 2                                      |  |
| HTGFZ03 | 923443 | 5968 | 3 - 275   | 15720 |   | AR089: 1, AR061: 1<br>S0218: 1 and H0485: 1.  |  |
| HTGFZ35 | 707730 | 5969 | 13 - 285  | 15721 | Ser-60 to Leu-66.   | S0218: 2                                      |  |
| HTGFZ58 | 735683 | 5970 | 59 - 190  | 15722 |   | H0265: 1 and S0218: 1.                        |  |
| HTGGL08 | 958583 | 5971 | 2 - 232   | 15723 |   | S0218: 2                                      |  |
| HTGGL11 | 966328 | 5972 | 3 - 158   | 15724 |   | S0218: 2                                      |  |
| HTGGL23 | 974590 | 5973 | 3 - 449   | 15725 |   | S0218: 2                                      |  |
| HTGGL32 | 698714 | 5974 | 114 - 266 | 15726 | Asp-1 to Ser-7,<br>Lys-23 to Ile-28.  | S0218: 2                                      |  |
| HTGGL43 | 714932 | 5975 | 36 - 218  | 15727 | Leu-11 to Gln-16.   | S0218: 2                                      |  |
| HTGGL79 | 774657 | 5976 | 2 - 103   | 15728 | Thr-1 to Asn-10.  | S0218: 2                                      |  |
| HTGGM20 | 669083 | 5977 | 7 - 129   | 15729 | Arg-20 to Gly-26.   | S0218: 1, S0212: 1, H0318:<br>1 and L0648: 1. |  |
| HTGGN13 | 869239 | 5978 | 2 - 235   | 15730 | Pro-10 to Ala-16.   | S0218: 2 and H0556: 1.                        |  |
| HTGGN92 | 927051 | 5979 | 3 - 197   | 15731 |   | H0556: 1 and S0218: 1.                        |  |
| HTHAA47 | 503638 | 5980 | 59 - 313  | 15732 |   | H0222: 1 and H0062: 1.                        |  |
| HTHBA07 | 954426 | 5981 | 27 - 203  | 15733 |   | H0063: 2 and L0657: 1.                        |  |
|         | 954427 | 9598 | 265 - 62  | 19350 |   |   |  |
| HTHBA18 | 502818 | 5982 | 3 - 128   | 15734 |   | H0063: 2                                      |  |
| HTHBA68 | 915256 | 5983 | 3 - 392   | 15735 |   | H0556: 1 and H0063: 1.                        |  |
| HTHBC31 | 578568 | 5984 | 259 - 468 | 15736 | Tyr-10 to Thr-16.   | H0063: 1 and H0423: 1.                        |  |
| HTHBC37 | 502935 | 5985 | 101 - 256 | 15737 | Thr-6 to Leu-11.  | H0063: 2                                      |  |
| HTHBG67 | 964562 | 5986 | 172 - 318 | 15738 |   | H0220: 1, H0486: 1, H0063:<br>1 and H0625: 1. |  |
| HTHBK65 | 526716 | 5987 | 1 - 132   | 15739 |   | H0063: 2                                      |  |
| HTHBL65 | 921965 | 5988 | 1 - 366   | 15740 | Glu-6 to Thr-17.  | H0402: 1 and H0063: 1.                        |  |

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| HTHBO09 | 531115 | 5989 | 3 - 140   | 15741 | Trp-23 to Arg-38.                      |  |  |        |
| HTHBQ94 | 529671 | 5990 | 85 - 243  | 15742 | Lys-11 to Glu-19.                      |  | S0114: 1 and H0063: 1.   |        |
| HTHBW75 | 557957 | 5991 | 2 - 133   | 15743 | Pro-23 to Glu-35.                      |  | H0063: 1 and H0264: 1.   |        |
| HTHBW69 | 757741 | 5992 | 85 - 246  | 15744 |  |  | H0265: 1 and H0063: 1.   |        |
| HTHBY64 | 712474 | 5993 | 320 - 493 | 15745 | Ser-25 to Trp-30.                      |  | H0318: 1 and H0063: 1.   |        |
| HTHCA17 | 572407 | 5994 | 107 - 298 | 15746 | Lys-19 to Leu-24.                      |  | H0063: 2 and S0052: 2.   |        |
| HTHCA75 | 712649 | 5995 | 208 - 477 | 15747 |  |  | H0063: 1 and H0264: 1.   |        |
| HTHCB68 | 660309 | 5996 | 3 - 359   | 15748 | His-1 to Ser-7,<br>Thr-33 to Gly-40.   |  | H0063: 1, H0272: 1 and<br>L0749: 1.  |        |
| HTHCB83 | 578858 | 5997 | 109 - 321 | 15749 | Cys-24 to Asn-33,<br>Ala-53 to Ser-61. |  | H0063: 2   | 2q37.2 |
| HTHCC54 | 578877 | 5998 | 131 - 340 | 15750 | His-8 to Asp-13,<br>Arg-21 to Cys-29.  |  | H0063: 2   |        |
| HTHCD17 | 664274 | 5999 | 62 - 331  | 15751 | Asp-1 to Glu-6.                        |  | H0063: 2   |        |
| HTHCD91 | 973272 | 6000 | 407 - 535 | 15752 |  |  | H0063: 3   |        |
| HTHCG11 | 967275 | 6001 | 117 - 245 | 15753 | Tyr-29 to Ile-37.                      |  | H0063: 1 and H0521: 1.   |        |
| HTHCG86 | 578843 | 6002 | 1 - 165   | 15754 | Gly-1 to Lys-12,<br>Arg-19 to Ser-27.  |  | H0063: 1 and H0543: 1.   |        |
| HTHCH22 | 630239 | 6003 | 293 - 547 | 15755 |  |  | H0305: 1, H0589: 1, H0063:<br>1 and L0591: 1.                                  |        |
| HTHC142 | 578875 | 6004 | 82 - 291  | 15756 |  |  | H0063: 2   |        |
| HTHCK38 | 579080 | 6005 | 3 - 275   | 15757 |  |  | H0063: 1 and H0264: 1.   |        |
| HTHCK42 | 870355 | 6006 | 239 - 376 | 15758 |  |  | H0063: 2   |        |
| HTHCK91 | 922873 | 6007 | 1 - 141   | 15759 |  |  | H0063: 1 and S0426: 1.   |        |
| HTHCM08 | 959719 | 6008 | 20 - 268  | 15760 | Lys-19 to Asn-27.                      |  | H0063: 2   |        |
| HTHCM19 | 842036 | 6009 | 199 - 375 | 15761 | Gly-24 to Arg-29.                      |  | H0305: 3, H0581: 1 and<br>H0063: 1.  |        |
| HTHCM39 | 578831 | 6010 | 147 - 350 | 15762 | Asn-28 to Phe-43.                      |  | H0063: 2   |        |
| HTHCN38 | 578826 | 6011 | 183 - 371 | 15763 | Pro-1 to Ser-9.                        |  | H0063: 2   |        |
| HTHCO28 | 705888 | 6012 | 1 - 231   | 15764 |  |  | S0114: 1 and H0063: 1.   |        |
| HTHCO92 | 578757 | 6013 | 1 - 84    | 15765 |  |  | L0794: 3, L0766: 2, H0581:<br>1, H0063: 1, L0792: 1,<br>L0438: 1, L0439: 1 and |        |

|         |        |       |           |       |  |  |  |
|---------|--------|-------|-----------|-------|--|--|--|
| HTHCQ31 | 926330 | 6014  | 391 - 624 | 15766 | Leu-48 to Arg-60.  | L0779: 1.  |  |
| HTHCQ63 | 959994 | 6015  | 224 - 361 | 15767 |  | H0063: 1, L0766: 1, L0748: 1 and H0543: 1.           |  |
| HTHCR16 | 578722 | 6016  | 3 - 296   | 15768 | His-1 to Pro-14, Arg-19 to Val-25, Cys-29 to His-42, Pro-62 to Arg-68, Cys-83 to Glu-92. | S0116: 2 and H0063: 1.                               |  |
| HTHCT64 | 856477 | 6017  | 44 - 286  | 15769 | Glu-1 to Ala-11.   | H0063: 2   |  |
| HTHCU43 | 578849 | 6018  | 199 - 297 | 15770 |  | H0063: 1 and H0445: 1.                               |  |
| HTHCU85 | 578851 | 6019  | 159 - 314 | 15771 | Lys-35 to Gly-42.  | H0063: 2   |  |
| HTHCV21 | 671098 | 6020  | 2 - 211   | 15772 | Asn-45 to Ser-50.  | S0134: 1, L0717: 1, H0063: 1 and L0749: 1.           | 104770, 107670, 110700, 145001, 146760, 146790, 159440, 159440, 159440, 186780, 191030, 191315, 600923, 601412, 601652, 601863, 602491 |
| HTHCV22 | 419714 | 6021  | 2 - 205   | 15773 | Gly-48 to Lys-55.  | H0063: 2   |  |
| HTHCV59 | 937393 | 6022  | 45 - 374  | 15774 | Leu-71 to Gly-78.  | AR089: 17, AR061: 10 H0318: 1 and H0063: 1.          |  |
| HTHCW35 | 707732 | 6023  | 55 - 147  | 15775 |  | H0580: 1 and H0063: 1.                               |  |
| HTHCW45 | 578823 | 6024  | 3 - 152   | 15776 | Ile-16 to His-22.  | H0063: 2   |  |
| HTHCW83 | 578828 | 6025  | 73 - 252  | 15777 | Leu-1 to Lys-8, Thr-20 to Asn-26.  | H0063: 2   |  |
| HTHCX84 | 578874 | 6026  | 29 - 280  | 15778 |  | H0063: 2   |  |
| HTHCY12 | 971165 | 6027  | 222 - 515 | 15779 | Pro-22 to Pro-32, Arg-40 to Lys-50, Ala-69 to Gly-74.                                    | L0766: 3, H0063: 2, L0769: 1, L0779: 1 and L0759: 1. |  |
| HTHCZ96 | 578876 | 6028  | 94 - 306  | 15780 | Arg-1 to Thr-7, Phe-27 to Ala-47.  | H0063: 2   |  |
| HTHDD40 | 707065 | 6029* | 2 - 367   | 15781 | Arg-18 to Val-37.  | H0063: 2   |  |
| HTHDE26 | 869483 | 6030  | 160 - 546 | 15782 | Pro-52 to Leu-58.  | H0063: 1, H0576: 1 and                               |  |

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|----------|--------|------|-----------|-------|--|--|--|---|--|--|--|--|
| HTHDE44  | 791641 | 6031 |           |       |  |  |  |   | H0445: 1.  |  |  |  |
| HTHDE91  | 967215 | 6032 | 286 - 363 | 15783 |  |  |  |   | H0063: 1 and S0428: 1.                                     |  |  |  |
| HTHDF38  | 870339 | 6033 | 164 - 307 | 15784 |  |  |  |   | H0063: 1 and H0423: 1.                                     |  |  |  |
|          |        |      | 1 - 186   | 15785 |  |  |  | Asn-10 to Leu-15,<br>Phe-35 to Leu-42,<br>Ser-56 to Arg-62.                     | H0637: 1, H0063: 1, L0598:<br>1, H0542: 1 and H0423: 1.    |  |  |  |
| HTHDIH24 | 574675 | 6034 | 84 - 242  | 15786 |  |  |  | Val-4 to His-15.  | H0250: 1, H0271: 1 and<br>H0063: 1.                        |  |  |  |
| HTHDIH34 | 490926 | 6035 | 78 - 1    | 15787 |  |  |  | Lys-1 to Thr-9,<br>Leu-17 to Arg-26.  | H0063: 5   |  |  |  |
|          | 973304 | 9599 | 332 - 457 | 19351 |  |  |  |   |  |  |  |  |
| HTHDI31  | 959718 | 6036 | 173 - 304 | 15788 |  |  |  |   | H0063: 2   |  |  |  |
| HTHDI43  | 870335 | 6037 | 1 - 243   | 15789 |  |  |  | Ser-40 to Asp-46,<br>Val-48 to Lys-63.  | H0063: 2   |  |  |  |
| HTHDM25  | 578878 | 6038 | 145 - 333 | 15790 |  |  |  |   | H0063: 2 and L0519: 1.                                     |  |  |  |
| HTHDM65  | 579199 | 6039 | 145 - 252 | 15791 |  |  |  |   | H0063: 2   |  |  |  |
| HTHDM69  | 578834 | 6040 | 213 - 383 | 15792 |  |  |  | Asn-3 to Gly-11.  | H0063: 2   |  |  |  |
| HTHDP70  | 578882 | 6041 | 134 - 268 | 15793 |  |  |  |   | H0063: 2   |  |  |  |
| HTHDQ85  | 966858 | 6042 | 33 - 227  | 15794 |  |  |  | Lys-37 to Gly-43,<br>Phe-57 to Thr-65.  | H0063: 1 and H0272: 1.                                     |  |  |  |
| HTHDR09  | 579076 | 6043 | 2 - 220   | 15795 |  |  |  | Arg-1 to Gly-16,<br>Ala-28 to Ala-34,<br>Ser-40 to Lys-53.                      | H0063: 2   |  |  |  |
| HTHDR24  | 578848 | 6044 | 2 - 208   | 15796 |  |  |  | Ala-1 to Lys-13,<br>Leu-19 to Ile-24,<br>Tyr-26 to Ile-31,<br>Pro-40 to Lys-46. | H0063: 2   |  |  |  |
| HTHDU80  | 764136 | 6045 | 400 - 558 | 15797 |  |  |  | Leu-19 to Arg-31.   | H0580: 1 and H0063: 1.                                     |  |  |  |
| HTJAB35  | 491273 | 6046 | 519 - 313 | 15798 |  |  |  |   | AR089: 14, AR061: 3<br>H0063: 2, H0487: 1 and<br>H0445: 1. |  |  |  |
|          | 853995 | 9600 | 358 - 185 | 19352 |  |  |  |   |  |  |  |  |
|          | 880424 | 9601 | 239 - 457 | 19353 |  |  |  |   |  |  |  |  |
| HTJAB39  | 705432 | 6047 | 111 - 260 | 15799 |  |  |  |   | L0539: 1, H0580: 1 and<br>H0487: 1.                        |  |  |  |
| HTJAD26  | 681865 | 6048 | 112 - 348 | 15800 |  |  |  | Thr-59 to His-67.   | H0487: 1 and S0002: 1.                                     |  |  |  |

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|---------|--------|------|-----------|-------|--|---|--|---|--|
| HTJAE28 | 703321 | 6049 | 113 - 292 | 15801 |  |   | H0487: 1 and H0423: 1.                     |   |  |
| HTJAE42 | 668339 | 6050 | 245 - 379 | 15802 |  |   | H0583: 1, H0487: 1, L0805: 1 and L0740: 1. |   |  |
| HTJMB71 | 760226 | 6051 | 448 - 200 | 15803 |  |   | H0265: 1, H0402: 1, H0488: 1 and H0522: 1. |   |  |
|         | 760247 | 9602 | 448 - 200 | 19354 |  |   |  |   |  |
| HTJMD95 | 924240 | 6052 | 222 - 368 | 15804 |  |   | H0488: 2                                   |   |  |
| HTJMH80 | 774407 | 6053 | 115 - 393 | 15805 |  | Glu-1 to Tyr-7.   | H0488: 3                                   |   |  |
| HTJMQ69 | 754605 | 6054 | 104 - 310 | 15806 |  |   | H0591: 2 and H0488: 1.                     |   |  |
| HTJMR65 | 729039 | 6055 | 1 - 120   | 15807 |  | Gly-1 to Gly-9, Pro-16 to Leu-25.                                       | H0488: 2                                   |   |  |
| HTJMT23 | 948518 | 6056 | 2 - 241   | 15808 |  |   | H0488: 2                                   |   |  |
| HTJMT75 | 766883 | 6057 | 253 - 447 | 15809 |  |   | H0488: 2 and L0749: 1.                     |   |  |
| HTJMU34 | 870316 | 6058 | 2 - 211   | 15810 |  |   | H0488: 2                                   |   |  |
| HTJMU77 | 771677 | 6059 | 2 - 283   | 15811 |  | Glu-17 to Ser-26, Lys-61 to Lys-70, Phe-86 to Cys-93.                   | H0488: 1, L0762: 1, H0543: 1 and H0422: 1. |   |  |
| HTJMU87 | 870315 | 6060 | 1 - 300   | 15812 |  | Glu-23 to Tyr-28.   | H0069: 1 and H0488: 1.                     |   |  |
| HTJMV80 | 775766 | 6061 | 29 - 220  | 15813 |  | Thr-17 to Ser-24, Glu-28 to Lys-38, Ser-43 to Val-49, Ser-56 to Lys-64. | H0488: 2 and L0605: 1.                     |   |  |
| HTJMW42 | 713132 | 6062 | 276 - 461 | 15814 |  |   | H0271: 1 and H0488: 1.                     |   |  |
| HTJMX71 | 759910 | 6063 | 67 - 255  | 15815 |  | Tyr-54 to Gln-59.   | S0212: 1 and H0488: 1.                     |   |  |
| HTJMZ90 | 787655 | 6064 | 7 - 102   | 15816 |  |   | H0488: 2                                   |   |  |
| HTJNB83 | 766881 | 6065 | 1 - 138   | 15817 |  |   | H0488: 2                                   |   |  |
| HTJNC42 | 713142 | 6066 | 61 - 222  | 15818 |  |   | S0212: 1 and H0488: 1.                     | 8 |  |
| HTJNC53 | 793328 | 6067 | 78 - 332  | 15819 |  |   | H0488: 2                                   |   |  |
| HTJND12 | 870311 | 6068 | 196 - 417 | 15820 |  |   | H0488: 2                                   |   |  |
| HTJNI42 | 924726 | 6069 | 2 - 373   | 15821 |  | Thr-1 to His-6, Phe-8 to Pro-24, Leu-69 to Ser-75.                      | H0488: 1 and S0002: 1.                     |   |  |
| HTJNK36 | 924939 | 6070 | 172 - 441 | 15822 |  | Arg-19 to Gly-28.   | H0271: 2, H0488: 1, L0438: 1 and L0439: 1. |   |  |
| HTJNM52 | 795110 | 6071 | 7 - 306   | 15823 |  | Pro-24 to Ala-29.   | T0002: 1, H0488: 1 and                     |   |  |



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| HTJNQ25  | 771941 | 6072 | 2 - 205    | 15824 | Arg-14 to His-23.   | L0602: 1.  |  |
| HTJNR19  | 781702 | 6073 | 3 - 161    | 15825 |   | H0318: 1 and H0488: 1.   |  |
| HTJNS23  | 870336 | 6074 | 2 - 535    | 15826 | Ser-8 to Lys-15,<br>Pro-30 to Asp-36.                           | H0265: 1 and H0488: 1.<br>H0063: 1 and H0488: 1.   |  |
| HTJNV55  | 931039 | 6075 | 2 - 244    | 15827 |   | H0581: 1 and H0488: 1.   |  |
| HTOAAA48 | 870027 | 6076 | 2 - 265    | 15828 |   | H0264: 2   |  |
| HTOAF15  | 866201 | 6077 | 2 - 610    | 15829 | Tyr-51 to Glu-57,<br>Ser-164 to Pro-171,<br>Pro-185 to Lys-198. | AR051: 50, AR050: 37,<br>AR054: 35<br>H0179: 2, L0519: 2, H0265:<br>1, H0264: 1, L0541: 1,<br>S0053: 1 and S0216: 1. |  |
| HTOAI35  | 799686 | 6078 | 53 - 121   | 15830 |   | H0264: 3   |  |
| HTOAI69  | 529555 | 6079 | 2 - 97     | 15831 | Gln-3 to Asn-8,<br>Glu-22 to Arg-27.                            | H0264: 2   |  |
| HTOAI93  | 751902 | 6080 | 47 - 235   | 15832 |   | H0264: 2   |  |
| HTOAK34  | 966800 | 6081 | 918 - 1196 | 15833 | Ser-67 to Trp-77.   | AR089: 1, AR061: 1<br>L0766: 2, H0264: 1 and<br>H0521: 1.  |  |
| HTOAK36  | 921745 | 6082 | 1 - 204    | 15834 | Tyr-31 to Arg-40.   | H0264: 2   |  |
| HTOAO19  | 954183 | 6083 | 81 - 164   | 15835 |   | H0264: 2   |  |
| HTOAO75  | 530192 | 6084 | 23 - 214   | 15836 | Asn-6 to Phe-16.  | H0264: 2   |  |
| HTOAT80  | 530186 | 6085 | 3 - 284    | 15837 |   | H0264: 2   |  |
| HTOAU62  | 738214 | 6086 | 3 - 398    | 15838 |   | H0416: 1 and H0264: 1.   |  |
| HTOAU94  | 620370 | 6087 | 10 - 195   | 15839 |   | H0264: 1, S0002: 1 and<br>H0521: 1.  |  |
| HTOAW19  | 530114 | 6088 | 85 - 180   | 15840 | Leu-14 to Glu-24.   | H0264: 2   |  |
| HTOAW26  | 530116 | 6089 | 2 - 61     | 15841 |   | H0264: 2   |  |
| HTOAW37  | 507322 | 6090 | 177 - 392  | 15842 |   | H0264: 2 and L0439: 1.   |  |
| HTOBA06  | 960618 | 6091 | 3 - 395    | 15843 | Gly-1 to Tyr-9,<br>His-37 to Pro-42,<br>Lys-125 to Pro-131.     | H0581: 1, H0272: 1 and<br>S0428: 1.  |  |
| HTOBA10  | 839919 | 6092 | 1 - 168    | 15844 | His-40 to Arg-52.   | H0272: 1 and H0445: 1.   |  |
| HTOBE15  | 715538 | 6093 | 12 - 176   | 15845 | Ser-6 to His-12,<br>Lys-31 to Ser-36.                           | H0264: 1 and H0272: 1.   |  |

|          |        |      |           |       |                                      |  |  |  |
|----------|--------|------|-----------|-------|--------------------------------------|--|--|--|
| HTOBF03  | 925407 | 6094 | 57 - 146  | 15846 |                                      |  | H0272: 2   |  |
| HTOBF07  | 954184 | 6095 | 10 - 141  | 15847 | Pro-14 to Gly-35.                    |  | H0272: 2   |  |
| HTOBF35  | 530325 | 6096 | 6 - 314   | 15848 | Lys-10 to Gly-16.                    |  | H0272: 2   |  |
| HTOBF27  | 682263 | 6097 | 2 - 250   | 15849 | Arg-16 to Thr-22.                    |  | H0272: 1, S0002: 1 and L0748: 1.                               |  |
| HTOBF70  | 740977 | 6098 | 27 - 146  | 15850 | Ser-3 to Pro-9.                      |  | H0272: 1 and H0488: 1.   |  |
| HTOBF011 | 966734 | 6099 | 32 - 169  | 15851 |                                      |  | H0063: 1 and H0272: 1.   |  |
|          | 966776 | 9603 | 356 - 192 | 19355 |                                      |  |  |  |
| HTOCF92  | 530009 | 6100 | 199 - 411 | 15852 | Arg-33 to Lys-38, Pro-60 to Lys-67.  |  | H0272: 2 and L0748: 1.   |  |
| HTOCK26  | 523838 | 6101 | 2 - 187   | 15853 | Ser-29 to Gln-34.                    |  | H0272: 2 and L0791: 1.   |  |
| HTODB23  | 530149 | 6102 | 2 - 142   | 15854 |                                      |  | H0264: 2   |  |
| HTODC33  | 921426 | 6103 | 1 - 549   | 15855 |                                      |  | L0766: 6, L0754: 4, L0779: 4, H0264: 2, L0747: 2 and L0777: 1. |  |
| HTODE04  | 927826 | 6104 | 3 - 209   | 15856 |                                      |  | H0264: 3   |  |
| HTODE78  | 530397 | 6105 | 20 - 160  | 15857 | Asn-1 to Glu-7, Val-40 to Glu-47.    |  | H0264: 2   |  |
| HTODG07  | 880911 | 6106 | 90 - 215  | 15858 | Gly-1 to Ser-7.                      |  | H0264: 2   |  |
| HTODG10  | 968505 | 6107 | 38 - 157  | 15859 | Glu-1 to Glu-10.                     |  | H0264: 2   |  |
| HTODG16  | 909952 | 6108 | 1 - 492   | 15860 | Arg-80 to Lys-88, Ser-94 to Arg-103. |  | AR089: 22, AR061: 6, H0264: 2 and L0766: 1.                    |  |
| HTODG47  | 799691 | 6109 | 48 - 221  | 15861 | Pro-14 to Ala-19.                    |  | H0264: 3 and L0361: 1.   |  |
| HTODG55  | 852560 | 6110 | 3 - 194   | 15862 | His-2 to Pro-12.                     |  | H0264: 2 and H0521: 1.   |  |
| HTODG58  | 869998 | 6111 | 3 - 122   | 15863 | Ile-11 to Tyr-18, Met-29 to Gln-35.  |  | H0264: 2   |  |
| HTODG60  | 558007 | 6112 | 19 - 216  | 15864 | Thr-23 to Asn-34, Gln-53 to Phe-58.  |  | H0264: 2   |  |
| HTODG83  | 676384 | 6113 | 1 - 135   | 15865 | Arg-27 to Val-33.                    |  | H0264: 2   |  |
| HTODH04  | 925386 | 6114 | 107 - 286 | 15866 | Pro-31 to Lys-36.                    |  | H0264: 2   |  |
| HTODH37  | 708892 | 6115 | 70 - 234  | 15867 | Ser-27 to His-34.                    |  | S0114: 1 and H0264: 1.   |  |
| HTODL81  | 507295 | 6116 | 47 - 178  | 15868 | Val-3 to Gln-8.                      |  | H0264: 2   |  |
| HTODL85  | 799701 | 6117 | 171 - 302 | 15869 | Phe-38 to Leu-44.                    |  | H0264: 4 and H0179: 1.   |  |
| HTODM58  | 811293 | 6118 | 3 - 215   | 15870 | Ser-1 to Asn-12.                     |  | H0264: 3,  |  |
| HTODN21  | 869967 | 6119 | 38 - 163  | 15871 |                                      |  | H0264: 2   |  |

|         |        |      |             |       |   |  |                                  |      |                |
|---------|--------|------|-------------|-------|---|--|----------------------------------|------|----------------|
| HTODN27 | 684343 | 6120 | 183 - 326   | 15872 |   |  | H0581: 1, H0264: 1 and H0521: 1. |      |                |
| HTODN68 | 527862 | 6121 | 4 - 147     | 15873 | Asp-35 to Ser-40.   |  | H0179: 1 and H0264: 1.           | Yq11 | 400003, 415000 |
| HTOEA06 | 960551 | 6122 | 86 - 211    | 15874 | Lys-8 to Phe-14.  |  | H0264: 3                         |      |                |
| HTOEA12 | 967754 | 6123 | 166 - 357   | 15875 | Ala-37 to Met-44.   |  | H0264: 2                         |      |                |
| HTOEA25 | 523546 | 6124 | 40 - 96     | 15876 | Thr-9 to Asn-14.  |  | H0264: 2                         |      |                |
| HTOEC81 | 529834 | 6125 | 48 - 167    | 15877 | Arg-1 to Thr-18.  |  | H0264: 2                         |      |                |
| HTOEC94 | 529839 | 6126 | 213 - 302   | 15878 | Ser-25 to Arg-30.   |  | H0264: 2                         |      |                |
| HTOED10 | 839798 | 6127 | 61 - 318    | 15879 | Gln-19 to Leu-24,<br>Ser-28 to Gly-35.                    |  | H0069: 1 and H0264: 1.           |      |                |
| HTOED61 | 742158 | 6128 | 214 - 339   | 15880 |   |  | S0142: 2 and H0264: 1.           |      |                |
| HTOEG69 | 967562 | 6129 | 3 - 149     | 15881 |   |  | H0264: 2                         |      |                |
| HTOET10 | 968492 | 6130 | 2 - 109     | 15882 |   |  | H0264: 2                         |      |                |
| HTOEV37 | 774641 | 6131 | 31 - 141    | 15883 | Val-21 to Lys-33.   |  | S0114: 1 and H0264: 1.           |      |                |
| HTOEV40 | 529822 | 6132 | 286 - 414   | 15884 |   |  | H0264: 2                         |      |                |
| HTOEV50 | 529820 | 6133 | 77 - 220    | 15885 |   |  | H0264: 2                         |      |                |
| HTOEY72 | 659494 | 6134 | 136 - 255   | 15886 |   |  | H0264: 2                         |      |                |
| HTOFA04 | 845519 | 6135 | 1 - 129     | 15887 |   |  | H0087: 1 and H0264: 1.           |      |                |
|         | 869987 | 9604 | 158 - 289   | 19356 |   |  |                                  |      |                |
|         | 927327 | 9605 | 458 - 129   | 19357 | Ala-1 to Lys-9,<br>Lys-22 to Lys-28,<br>Lys-37 to Asp-43. |  |                                  |      |                |
| HTOFB55 | 723256 | 6136 | 110 - 256   | 15888 |   |  | H0264: 2                         |      |                |
| HTOFB73 | 742153 | 6137 | 3 - 164     | 15889 |   |  | H0264: 2                         |      |                |
| HTOFC70 | 811291 | 6138 | 65 - 355    | 15890 |   |  | H0264: 2                         |      |                |
| HTOFD10 | 968469 | 6139 | 2 - 133     | 15891 | Ile-20 to Asp-32.   |  | H0264: 2                         |      |                |
| HTOFD31 | 529674 | 6140 | 2 - 76      | 15892 |   |  | S0114: 1 and H0264: 1.           |      |                |
| HTOFD57 | 529673 | 6141 | 101 - 304   | 15893 |   |  | H0264: 2                         |      |                |
| HTOFO05 | 932662 | 6142 | 3 - 98      | 15894 | Pro-5 to Leu-16.  |  | H0083: 1 and H0264: 1.           |      |                |
| HTOFO41 | 529617 | 6143 | 34 - 111    | 15895 | Tyr-3 to Leu-11,<br>Arg-14 to Glu-19.                     |  | H0264: 2                         |      |                |
| HTOFQ48 | 720880 | 6144 | 125 - 316   | 15896 | Thr-12 to Asn-21,<br>Pro-39 to Gln-45.                    |  | H0318: 1 and H0264: 1.           |      |                |
| HTOFT22 | 939903 | 6145 | 1870 - 2187 | 15897 | Thr-11 to Gly-24,<br>Pro-27 to Asn-37.                    |  | AR061: 6, AR089: 2<br>H0264: 2   |      |                |

|         |        |      |           |       |  |   |  |
|---------|--------|------|-----------|-------|--|---|--|
| HTOFT34 | 963302 | 9606 | 750 - 905 |       | Gln-44 to Glu-49,<br>Arg-69 to Arg-84.                     |   |  |
|         | 527144 | 6146 | 106 - 270 | 19358 |  |   |  |
|         |        |      |           | 15898 |  | AR089: 8, AR061: 5<br>H0264: 2 and L0367: 1.  |  |
|         |        |      |           |       |  | H0264: 2  |  |
| HTOGA06 | 960554 | 6147 | 1 - 249   | 15899 |  | H0264: 2  |  |
| HTOGA25 | 529959 | 6148 | 37 - 156  | 15900 |  |   |  |
| HTOGA35 | 751989 | 6149 | 185 - 337 | 15901 | Ala-11 to Thr-17.  | L0750: 3, L0551: 2, L0748:<br>2, H0486: 1, L0455: 1,<br>H0264: 1, S0002: 1, L0764:<br>1, L0791: 1 and L0740: 1. |  |
| HTOGA51 | 530331 | 6150 | 6 - 122   | 15902 | Glu-23 to Lys-29.  | H0264: 1 and H0272: 1.  |  |
| HTOGB55 | 781591 | 6151 | 157 - 390 | 15903 |  | H0264: 2  |  |
| HTOGB92 | 529810 | 6152 | 40 - 132  | 15904 | Lys-18 to Glu-24.  | H0264: 2  |  |
| HTOGC16 | 927835 | 6153 | 22 - 102  | 15905 |  | H0264: 2  |  |
| HTOGC20 | 960094 | 6154 | 191 - 334 | 15906 | Thr-1 to Gly-13;<br>Pro-26 to Leu-31.                      | H0318: 1 and H0264: 1.  |  |
| HTOGD28 | 529806 | 6155 | 141 - 335 | 15907 |  | H0264: 2  |  |
| HTOGD43 | 650846 | 6156 | 2 - 172   | 15908 | His-7 to Trp-12,<br>Arg-15 to Trp-20,<br>Tyr-22 to Trp-29. | H0264: 1 and H0445: 1.  |  |
| HTOGD50 | 529805 | 6157 | 222 - 434 | 15909 |  | H0264: 2 and L0766: 1.  |  |
| HTOGI75 | 869973 | 6158 | 101 - 307 | 15910 | Pro-19 to Gly-24,<br>Ser-41 to Ser-46.                     | H0264: 2  |  |
| HTOGI86 | 507294 | 6159 | 3 - 332   | 15911 | His-1 to Cys-10.   | H0264: 2  |  |
| HTOGR50 | 529824 | 6160 | 139 - 231 | 15912 |  | H0264: 2  |  |
| HTOGR65 | 618316 | 6161 | 339 - 572 | 15913 |  | L0749: 2, H0264: 1 and<br>S0002: 1.   |  |
| HTOGU30 | 869971 | 9607 | 292 - 624 | 19359 |  |   |  |
|         | 869972 | 9608 | 236 - 364 | 19360 |  |   |  |
|         | 961776 | 6162 | 13 - 105  | 15914 | Phe-14 to Thr-24.  | H0650: 1 and H0264: 1.  |  |
|         | 924986 | 6163 | 2 - 193   | 15915 |  | H0581: 1 and H0264: 1.  |  |
| HTOHB42 | 714073 | 6164 | 361 - 158 | 15916 |  | H0341: 1 and H0264: 1.  |  |
| HTOHB66 | 966688 | 6165 | 559 - 768 | 15917 | Pro-18 to Pro-27.  | H0318: 4, L0748: 2, H0264:<br>1 and H0543: 1.   |  |

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|---------|--------|------|-----------|-------|--|---|--|--|
| HTOHC78 | 577745 | 6166 | 18 - 239  | 15918 | Ser-1 to Pro-7,<br>Ala-14 to Thr-25,<br>Pro-38 to Pro-44,<br>Val-62 to Gly-73. | H0264: 2  |  |  |
| HTOHC84 | 537370 | 6167 | 69 - 266  | 15919 | Cys-50 to Gly-56.  | H0264: 2  |  |  |
| HTOHD27 | 799676 | 6168 | 3 - 128   | 15920 |  | H0264: 2  |  |  |
| HTOHE53 | 531172 | 6169 | 1 - 129   | 15921 |  | S0114: 1 and H0264: 1.                              |  |  |
| HTOHG55 | 537366 | 6170 | 133 - 252 | 15922 |  | H0264: 2  |  |  |
| HTOHJ60 | 740611 | 6171 | 110 - 193 | 15923 |  | H0318: 1 and H0264: 1.                              |  |  |
| HTOHL22 | 968308 | 6172 | 113 - 241 | 15924 |  | H0264: 2  |  |  |
| HTOHL35 | 537364 | 6173 | 1 - 201   | 15925 | Arg-8 to Val-18,<br>Arg-30 to Cys-36.  | AR061: 1, AR089: 0<br>H0264: 2                      |  |  |
| HTOHM54 | 537363 | 6174 | 78 - 266  | 15926 | Pro-6 to Pro-14.   | H0264: 2  |  |  |
| HTOHN24 | 971728 | 6175 | 3 - 122   | 15927 | Lys-26 to Arg-33.  | H0264: 2  |  |  |
| HTOHN42 | 537362 | 6176 | 28 - 147  | 15928 | Ser-11 to Leu-16,<br>Leu-20 to Arg-25.   | H0264: 2  |  |  |
| HTOHP13 | 530350 | 6177 | 4 - 417   | 15929 | Pro-11 to Ala-17.  | H0264: 2, H0457: 1, H0271: 17q21<br>1 and H0543: 1. | 109270, 109270,<br>109270, 109270,<br>109270, 113705,<br>113705, 144200,<br>148065, 148066,<br>148066, 148067,<br>148067, 148069,<br>148080, 154275,<br>168610, 171190,<br>176705, 185800,<br>200350, 221820,<br>232200, 249000,<br>252920, 253250,<br>600119, 600119,<br>601363, 601844 |  |
| HTOHS32 | 678071 | 6178 | 46 - 201  | 15930 | Pro-20 to His-39,<br>Pro-47 to Ser-52.   | H0416: 1 and H0264: 1.                              |  |  |
| HTOHS68 | 507136 | 6179 | 3 - 311   | 15931 | Asp-7 to Lys-16.   | H0264: 2  |  |  |
| HTOHU09 | 920734 | 6180 | 1 - 168   | 15932 |  | H0264: 2 and S0116: 1.                              |  |  |
| HTOHV29 | 527865 | 6181 | 2 - 151   | 15933 | Pro-9 to Glu-14.   | H0264: 2  |  |  |

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| HTOHX74  | 507139 | 6182 | 1 - 246   | 15934 | Lys-1 to Ala-11,<br>Pro-26 to Lys-41.  | H0264: 2                                      |  |
| HTOHZ61  | 537371 | 6183 | 274 - 405 | 15935 | Asn-1 to Tyr-6.  | H0264: 2                                      |  |
| HTOIA12  | 851032 | 6184 | 1 - 360   | 15936 |  | H0457: 1 and H0264: 1.                        |  |
| HTOIA68  | 584946 | 6185 | 2 - 139   | 15937 | Leu-1 to Arg-8.  | H0264: 2                                      |  |
| HTOIJ67  | 537354 | 6186 | 114 - 356 | 15938 | Pro-24 to Asn-32,<br>Ala-36 to Gln-43,<br>Asp-48 to Ala-57,<br>Pro-66 to Arg-71. | H0264: 2                                      |  |
| HTOIK06  | 954518 | 6187 | 34 - 210  | 15939 |  | S0114: 1, H0318: 1 and<br>H0264: 1.           |  |
| HTOIK08  | 959996 | 6188 | 238 - 483 | 15940 | Pro-10 to Gln-17.  | L0766: 2, H0306: 1 and<br>H0264: 1.           |  |
| HTOIN17  | 537322 | 6189 | 1 - 276   | 15941 | Gly-1 to Leu-6.  | H0264: 2                                      |  |
| HTOIO29  | 506720 | 6190 | 63 - 230  | 15942 |  | H0264: 2                                      |  |
| HTOIO36  | 537320 | 6191 | 92 - 244  | 15943 | Leu-38 to Ser-43.  | H0264: 2                                      |  |
| HTOIO79  | 537321 | 6192 | 1 - 174   | 15944 | Gly-1 to Arg-9.  | H0264: 2                                      |  |
| HTOIP32  | 869941 | 6193 | 207 - 470 | 15945 |  | H0264: 2                                      |  |
| HTOIP53  | 557824 | 6194 | 122 - 289 | 15946 |  | H0264: 2                                      |  |
| HTOIQ05  | 932440 | 6195 | 110 - 274 | 15947 | Gly-2 to Lys-9,<br>Asp-15 to Trp-20.   | H0264: 2                                      |  |
| HTOIR12  | 537319 | 6196 | 229 - 80  | 15948 |  | H0264: 2                                      |  |
| HTOIS27  | 485268 | 6197 | 282 - 413 | 15949 | Gly-24 to Ser-29.  | H0264: 1, H0543: 1 and<br>H0423: 1.           |  |
|          | 934366 | 9609 | 188 - 292 | 19361 | Ala-23 to Glu-28.  |   |  |
| HTOIT32  | 418666 | 6198 | 2 - 94    | 15950 |  | H0271: 1 and H0264: 1.                        |  |
| HTOIW02  | 920752 | 6199 | 1 - 243   | 15951 | Ser-1 to Ser-11.   | H0264: 2                                      |  |
| HTOIW40  | 669595 | 6200 | 113 - 271 | 15952 |  | H0264: 1 and H0543: 1.                        |  |
| HTOIIY09 | 836003 | 6201 | 40 - 258  | 15953 | Cys-1 to Glu-7,<br>Ser-25 to Ser-32.   | H0556: 1, H0264: 1 and<br>H0422: 1.           |  |
| HTOIZ34  | 707039 | 6202 | 107 - 241 | 15954 | Ser-6 to Gly-12,<br>Arg-40 to Ala-45.  | H0264: 1, H0625: 1, L0666:<br>1 and L0740: 1. |  |
| HTOJA65  | 456824 | 6203 | 213 - 353 | 15955 | Leu-1 to His-6,<br>Pro-11 to Trp-16.   | H0556: 2, H0265: 1 and<br>H0264: 1.           |  |
| HTOJA83  | 574764 | 6204 | 50 - 250  | 15956 | Gln-25 to Arg-30,  | H0264: 2                                      |  |

|         |        |      |           |       |  |   |                           |
|---------|--------|------|-----------|-------|--|---|---------------------------|
| HTOJA96 | 968510 | 6205 | 27 - 107  | 15957 | Tyr-42 to Trp-50.  | H0264: 2                                      |                           |
| HTOJB59 | 574761 | 6206 | 176 - 316 | 15958 | Gly-10 to Gly-15.  | H0264: 2                                      |                           |
| HTOJB67 | 726577 | 6207 | 245 - 466 | 15959 | Ser-8 to Met-15,<br>Gly-24 to Pro-29,<br>Lys-63 to Ser-74. | H0445: 2 and H0264: 1.                        |                           |
| HTOJF65 | 715820 | 6208 | 89 - 262  | 15960 |  | S0114: 1 and H0264: 1.                        |                           |
| HTOJG08 | 869926 | 6209 | 2 - 166   | 15961 |  | H0264: 2                                      |                           |
| HTOJJ24 | 766963 | 6210 | 2 - 391   | 15962 | Arg-43 to Trp-48.  | H0341: 1, H0264: 1 and<br>H0543: 1.           |                           |
| HTOJJ17 | 574735 | 6211 | 18 - 155  | 15963 |  | H0264: 2, L0748: 1 and<br>L0749: 1.           |                           |
| HTOJK48 | 574348 | 6212 | 29 - 217  | 15964 |  | H0264: 2                                      |                           |
| HTOJK79 | 531320 | 6213 | 3 - 245   | 15965 |  | S0114: 1 and H0264: 1.                        |                           |
| HTOJK84 | 952741 | 6214 | 7 - 201   | 15966 | Gly-32 to Ile-37.  | H0264: 1 and H0445: 1.                        |                           |
| HTOJL55 | 825165 | 6215 | 8 - 139   | 15967 |  | S0114: 1 and H0264: 1.                        |                           |
| HTOJL71 | 574529 | 6216 | 23 - 133  | 15968 |  | H0264: 2                                      |                           |
| HTOJM06 | 936089 | 6217 | 396 - 644 | 15969 | Ser-35 to Ala-48,<br>Ser-73 to Gly-82.                     | H0264: 1, S0428: 1 and<br>S0053: 1.           |                           |
| HTOJM70 | 799689 | 6218 | 1 - 159   | 15970 |  | H0264: 3                                      |                           |
| HTOJS81 | 711021 | 6219 | 1 - 195   | 15971 |  | H0556: 1 and H0264: 1.                        |                           |
| HTOJT90 | 921016 | 6220 | 148 - 369 | 15972 | Leu-1 to Thr-6.  | H0341: 2, H0264: 2, L0471:<br>1 and H0542: 1. |                           |
| HTSAA22 | 415775 | 6221 | 2 - 181   | 15973 |  | H0402: 1 and H0087: 1.                        |                           |
| HTSEU58 | 521995 | 6222 | 86 - 271  | 15974 | Trp-10 to Lys-19,<br>Gln-21 to Thr-48.                     | H0318: 1, H0087: 1 and<br>L0747: 1.           |                           |
| HTSFZ77 | 935620 | 6223 | 105 - 266 | 15975 | Pro-29 to Asn-34,<br>Glu-43 to Lys-49.                     | H0402: 3 and H0087: 1.                        |                           |
| HTSGB93 | 526625 | 6224 | 89 - 277  | 15976 |  | H0087: 4 and L0752: 1.                        | 121700, 122000,<br>188040 |
| HTSGM65 | 576062 | 6225 | 151 - 309 | 15977 |  | H0087: 2                                      |                           |
| HTSGW24 | 971724 | 6226 | 295 - 609 | 15978 | Ser-35 to Trp-44.  | H0087: 1 and S0052: 1.                        |                           |
| HTSHA61 | 960474 | 6227 | 282 - 97  | 15979 | Ala-47 to Phe-52.  | H0087: 1 and H0116: 1.                        |                           |
| HTSHD86 | 773726 | 6228 | 182 - 499 | 15980 |  | H0063: 1 and H0087: 1.                        |                           |
| HTSHF47 | 720403 | 6229 | 99 - 326  | 15981 | Glu-1 to Pro-16.   | H0486: 1 and H0087: 1.                        |                           |

| HTSHM38 | 972248 | 6230 | 2 - 604   | 15982 | Asn-6 to Ser-15,<br>Pro-29 to Arg-42,<br>Pro-91 to Gln-108,<br>Lys-123 to Arg-133,<br>Ile-157 to Phe-168,<br>Gln-171 to Val-178,<br>Gly-185 to Pro-197. | AR051: 26, AR054: 20,<br>AR050: 18, AR089: 6,<br>AR061: 2<br>H0087: 1 and H0264: 1. |  |  |
|---------|--------|------|-----------|-------|---|---|--|--|
| HTUAA40 | 522671 | 6231 | 190 - 330 | 15983 |   | H0185: 1 and S0052: 1.  |  |  |
| HTUAA86 | 522076 | 6232 | 19 - 96   | 15984 | Val-1 to Thr-11.  | H0185: 2 and L0764: 1.  |  |  |
| HTWAB64 | 522058 | 6233 | 2 - 151   | 15985 | Ile-1 to Ile-6.   | H0187: 1 and H0576: 1.  |  |  |
| HTWAH16 | 880725 | 6234 | 139 - 243 | 15986 |   | S0114: 1 and H0187: 1.  |  |  |
| HTWAH51 | 614968 | 6235 | 60 - 167  | 15987 | Lys-16 to Lys-21.   | H0187: 1 and H0576: 1.  |  |  |
| HTWAM50 | 753217 | 6236 | 2 - 232   | 15988 |   | H0341: 1 and H0187: 1.  |  |  |
| HTWBD74 | 716756 | 6237 | 3 - 173   | 15989 | Pro-1 to Gly-10,<br>Pro-17 to Phe-24,<br>Thr-33 to Val-45.  | S0002: 1 and H0436: 1.  |  |  |
| HTWBE77 | 781306 | 6238 | 531 - 719 | 15990 |   | H0436: 1, L0731: 1 and<br>H0445: 1.   |  |  |
| HTWBF61 | 579041 | 6239 | 62 - 187  | 15991 |   | S0114: 1 and H0436: 1.  |  |  |
| HTWBF65 | 576623 | 6240 | 114 - 605 | 15992 | Gln-59 to Leu-65.   | H0341: 1 and H0436: 1.  |  |  |
| HTWBF82 | 854019 | 6241 | 2 - 217   | 15993 |   | H0436: 2  |  |  |
| HTWBG40 | 711271 | 6242 | 42 - 329  | 15994 | Cys-7 to Ser-13.  | H0436: 1, L0748: 1 and<br>H0422: 1.   |  |  |
| HTWBH73 | 708331 | 6243 | 32 - 211  | 15995 | Ser-6 to Asp-12.  | H0436: 2  |  |  |
| HTWBJ15 | 842014 | 6244 | 3 - 314   | 15996 | Asp-1 to His-6.   | L0596: 2, H0436: 1, H0445:<br>1 and H0543: 1.                                       |  |  |
| HTWBJ71 | 935647 | 6245 | 115 - 228 | 15997 | Thr-6 to Gln-12,<br>Glu-16 to Cys-25,<br>Pro-28 to Leu-34.  | H0436: 2  |  |  |
| HTWBL88 | 784364 | 6246 | 2 - 178   | 15998 | His-21 to Glu-27,<br>Gly-49 to Lys-59.  | H0402: 1 and H0436: 1.  |  |  |
| HTWBN85 | 577510 | 6247 | 1 - 81    | 15999 |   | S0114: 1 and H0436: 1.  |  |  |
| HTWBO55 | 732182 | 6248 | 385 - 525 | 16000 |   | H0436: 2 and L0439: 2.  |  |  |
| HTWBR04 | 787303 | 6249 | 3 - 317   | 16001 |   | H0581: 1 and H0436: 1.  |  |  |
| HTWBZ01 | 578678 | 6250 | 1 - 102   | 16002 | Arg-12 to Ser-33.   | H0436: 2  |  |  |
| HTWCA19 | 582498 | 6251 | 131 - 436 | 16003 |   | S0002: 1 and H0436: 1.  |  |  |



|         |        |      |           |       |   |   |                                   |
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| HTWCA76 | 770109 | 6252 | 3 - 149   | 16004 | Phe-40 to Phe-45.   | S0218: 1 and H0436: 1.                                  |                                   |
| HTWCD27 | 658018 | 6253 | 1 - 186   | 16005 | His-4 to Glu-27.  | H0318: 1 and H0436: 1.                                  |                                   |
| HTWCD40 | 670812 | 6254 | 166 - 348 | 16006 |   | H0436: 2  |                                   |
| HTWCE72 | 575962 | 6255 | 150 - 272 | 16007 | Gly-3 to Phe-11,<br>Pro-13 to Lys-38.                     | H0436: 2  |                                   |
| HTWCF06 | 935641 | 6256 | 195 - 371 | 16008 | Gln-17 to Ala-22.   | H0306: 1 and H0436: 1.                                  |                                   |
| HTWCF25 | 924008 | 6257 | 1 - 219   | 16009 | Pro-18 to Lys-25.   | H0436: 4  |                                   |
| HTWCF94 | 747197 | 6258 | 132 - 347 | 16010 | Ser-1 to Pro-7,<br>Pro-45 to Gly-54,<br>His-58 to Ser-67. | H0436: 2  |                                   |
| HTWCG45 | 548176 | 6259 | 1 - 165   | 16011 | Lys-17 to Thr-26.   | S0278: 1 and H0436: 1.                                  | 6q14                              |
| HTWCG65 | 869547 | 6260 | 115 - 312 | 16012 | Lys-31 to Lys-47.   | AR089: 1, AR061: 0<br>H0650: 1 and H0436: 1.            | 136550, 203310,<br>269920, 602772 |
| HTWCG69 | 575950 | 6261 | 3 - 92    | 16013 | Ala-9 to Ala-17.  | S0053: 1 and H0436: 1.                                  |                                   |
| HTWCI42 | 713022 | 6262 | 1 - 162   | 16014 |   | H0436: 2  |                                   |
| HTWCK07 | 953482 | 6263 | 204 - 425 | 16015 |   | S0114: 1 and H0436: 1.                                  |                                   |
| HTWCI29 | 740327 | 6264 | 2 - 79    | 16016 | Ala-3 to Lys-13.  | H0521: 1 and H0436: 1.                                  |                                   |
| HTWCM36 | 971129 | 6265 | 156 - 380 | 16017 | Ser-2 to Ser-7.   | H0305: 2, L0766: 2, H0436:<br>2, L0777: 2 and L0748: 1. |                                   |
| HTWCM56 | 662321 | 6266 | 352 - 525 | 16018 | Asn-1 to Gln-12.  | S0142: 1 and H0436: 1.                                  |                                   |
| HTWCN33 | 577494 | 6267 | 230 - 475 | 16019 | Ser-15 to Lys-20.   | H0265: 1 and H0436: 1.                                  |                                   |
| HTWCN83 | 573580 | 6268 | 2 - 280   | 16020 |   | H0305: 5 and H0436: 1.                                  |                                   |
| HTWCR25 | 575959 | 6269 | 138 - 338 | 16021 |   | H0436: 2  |                                   |
| HTWCS11 | 967190 | 6270 | 94 - 204  | 16022 |   | H0436: 2  |                                   |
| HTWCT42 | 713870 | 6271 | 1 - 150   | 16023 |   | H0436: 2  |                                   |
| HTWCT61 | 575975 | 6272 | 86 - 232  | 16024 |   | H0402: 2 and H0436: 1.                                  |                                   |
| HTWCX32 | 669745 | 6273 | 2 - 97    | 16025 |   | H0436: 2, L0021: 1 and<br>L0766: 1.                     |                                   |
| HTWCY05 | 920337 | 6274 | 1 - 150   | 16026 |   | H0436: 2  |                                   |
| HTWCY69 | 869553 | 6275 | 100 - 369 | 16027 | Glu-26 to Lys-34.   | H0436: 2  |                                   |
| HTWDB72 | 835624 | 6276 | 197 - 376 | 16028 | Tyr-40 to Asp-45,<br>Asn-52 to Ser-57.                    | H0436: 2  |                                   |
| HTWDF82 | 921697 | 6277 | 3 - 233   | 16029 | Phe-10 to Tyr-22,<br>Arg-45 to Gly-57.                    | H0179: 1 and H0436: 1.                                  |                                   |

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| HTWDH14 | 669560 | 6278 | 3 - 338   | 16030 | Asp-68 to Asn-74.<br>Ala-7 to Ser-12,<br>Tyr-42 to Lys-50,<br>Asn-62 to Ile-67,<br>Thr-100 to Val-105.  | H0521: 2, S0114: 1, L0654:<br>1, H0522: 1 and H0436: 1. |                 |  |
| HTWDH75 | 767368 | 6279 | 138 - 302 | 16031 |   | H0556: 1 and H0436: 1.                                  |                 |  |
| HTWDM43 | 715352 | 6280 | 147 - 314 | 16032 | Pro-43 to Ser-51.   | S0474: 2, H0436: 1, L0749:<br>1 and H0542: 1.           |                 |  |
| HTWDN01 | 916680 | 6281 | 75 - 221  | 16033 | Glu-37 to Ala-42.   | H0436: 2  |                 |  |
| HTWDN17 | 664115 | 6282 | 1 - 345   | 16034 | Asn-50 to Gly-55,<br>Gln-69 to Leu-74.  | H0436: 1 and H0543: 1.                                  |                 |  |
| HTWDQ60 | 575939 | 6283 | 1 - 105   | 16035 |   | H0436: 2  |                 |  |
| HTWDS35 | 697825 | 6284 | 3 - 374   | 16036 | Glu-15 to Tyr-24,<br>Lys-29 to Lys-34,<br>Leu-38 to His-43,<br>Arg-47 to Glu-57,<br>Ser-65 to Gln-78,<br>Arg-86 to Ala-91,<br>Leu-95 to Gln-100,<br>Gln-107 to Glu-115. | L0803: 1, H0521: 1 and<br>H0436: 1.                     |                 |  |
| HTWEA61 | 965453 | 6285 | 3 - 368   | 16037 | Glu-24 to Thr-30,<br>Ser-39 to Pro-44.  | H0436: 2  |                 |  |
| HTWEC63 | 735003 | 6286 | 2 - 136   | 16038 | Gln-1 to Glu-21.  | S0114: 1 and H0436: 1.                                  |                 |  |
| HTWED17 | 663714 | 6287 | 257 - 370 | 16039 |   | S0218: 1, H0370: 1 and<br>H0436: 1.                     |                 |  |
| HTWED28 | 686598 | 6288 | 269 - 400 | 16040 | Arg-11 to Leu-19.   | H0581: 1 and H0436: 1.                                  |                 |  |
| HTWEG12 | 970538 | 6289 | 3 - 167   | 16041 | Arg-39 to Gly-49.   | H0436: 2  |                 |  |
| HTWEH16 | 661860 | 6290 | 3 - 227   | 16042 | Ser-42 to Ser-52,<br>His-60 to Arg-70.  | H0341: 1 and H0436: 1.                                  |                 |  |
| HTWEJ14 | 792648 | 6291 | 171 - 371 | 16043 | Phe-11 to Cys-17.   | H0436: 2  |                 |  |
| HTWEM37 | 449136 | 6292 | 3 - 260   | 16044 | Pro-26 to Pro-36,<br>Phe-54 to Gly-65.  | H0264: 1 and H0436: 1.                                  |                 |  |
| HTWEM63 | 745024 | 6293 | 346 - 77  | 16045 |   | H0436: 1 and H0423: 1.                                  |                 |  |
| HTWER78 | 836799 | 6294 | 16 - 378  | 16046 | Arg-74 to Tyr-80.   | H0486: 1 and H0436: 1.                                  |                 |  |
| HTWES75 | 767257 | 6295 | 88 - 180  | 16047 |   | H0436: 2  |                 |  |
| HTWEU29 | 711673 | 6296 | 3 - 224   | 16048 | Arg-56 to Ser-65.   | L0439: 2, T0041: 1, H0436:<br>1q21-q22                  | 104770, 107670, |  |

|         |        |      |           |       |  |  |                 |  |                                     |   |
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|         |        |      |           |       |  |  | 1 and L0748: 1. |  |                                     | 110700, 135940,<br>145001, 146790,<br>152445, 152445,<br>159001, 159440,<br>159440, 159440,<br>174000, 179755,<br>182860, 182860,<br>182860, 186780,<br>191030, 191315,<br>230800, 230800,<br>266200, 600897,<br>600923, 601105,<br>601412, 601652,<br>602491 |
| HTWEX09 | 625458 | 6297 | 3 - 182   | 16049 |  |  |                 | Glu-1 to Ala-6.  | H0436: 1 and H0444: 1.              |   |
| HTWEX18 | 666305 | 6298 | 210 - 353 | 16050 |  |  |                 |  | H0436: 1 and H0423: 1.              |   |
| HTWEY30 | 918641 | 6299 | 661 - 434 | 16051 |  |  |                 | Ser-18 to Phe-27,<br>Ser-30 to Ser-40,<br>Thr-50 to Lys-55.                      | H0436: 2 and L0751: 1.              |   |
| HTWFB37 | 708908 | 6300 | 3 - 164   | 16052 |  |  |                 | Thr-45 to Gly-53.  | H0306: 1 and H0436: 1.              |   |
| HTWFB75 | 767253 | 6301 | 85 - 243  | 16053 |  |  |                 | Asp-6 to Gly-12,<br>Gln-23 to Gln-29,<br>Arg-37 to Gly-49.                       | S0116: 1, H0421: 1 and<br>H0436: 1. |   |
| HTWFF46 | 869499 | 6302 | 2 - 205   | 16054 |  |  |                 | Lys-25 to Trp-31,<br>Arg-43 to Pro-53,<br>Pro-59 to Lys-64.                      | H0436: 5                            |   |
| HTWFG44 | 935270 | 6303 | 224 - 478 | 16055 |  |  |                 | Glu-31 to Gly-38,<br>Ser-45 to Arg-50,<br>Gly-56 to Ile-62,<br>Pro-70 to Cys-81. | H0457: 1 and H0436: 1.              |   |
| HTWFI19 | 668579 | 6304 | 216 - 332 | 16056 |  |  |                 | Pro-13 to Val-18,<br>Pro-20 to Trp-29.   | H0436: 4                            |   |
| HTWFK15 | 869498 | 6305 | 139 - 282 | 16057 |  |  |                 |  | H0436: 2                            |   |
| HTWFM20 | 917272 | 6306 | 195 - 536 | 16058 |  |  |                 | Pro-77 to Thr-86.  | S0114: 1, H0063: 1 and<br>H0436: 1. |   |
| HTWFN64 | 757593 | 6307 | 105 - 278 | 16059 |  |  |                 |  | H0402: 1 and H0436: 1.              |   |

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| HTWFO63 | 658473 | 6308 | 75 - 131  | 16060 |   | H0542: 2, H0402: 1, H0318: 1, H0436: 1, L0753: 1 and L0758: 1. |   |  |
| HTWFP14 | 869489 | 6309 | 3 - 209   | 16061 | His-9 to Gly-14.                                      | H0436: 2   |   |  |
| HTWFP33 | 916562 | 6310 | 79 - 309  | 16062 | Arg-27 to Leu-33, Val-51 to Asp-56, Arg-64 to Gly-72. | H0402: 1, H0264: 1 and H0436: 1.                               |   |  |
| HTWFP33 | 721768 | 6311 | 272 - 400 | 16063 | Pro-1 to Gly-6.                                       | H0402: 1 and H0436: 1.   |   |  |
| HTWFR17 | 663697 | 6312 | 20 - 253  | 16064 |   | H0264: 1 and H0436: 1.   |   |  |
| HTWJA24 | 954881 | 6313 | 281 - 538 | 16065 |   | H0576: 2, S0002: 1 and L0599: 1.                               |   |  |
| HTWJA59 | 812705 | 6314 | 130 - 279 | 16066 | Gly-30 to Gln-37.                                     | H0576: 2   |   |  |
| HTWJA83 | 780990 | 6315 | 70 - 216  | 16067 | His-25 to Asn-35.                                     | H0576: 2   |   |  |
| HTWJA95 | 796259 | 6316 | 139 - 258 | 16068 | Met-6 to Asn-11, Pro-34 to Gln-40.                    | H0576: 2   |   |  |
| HTWJC43 | 715081 | 6317 | 49 - 207  | 16069 | Ser-11 to Gly-20.                                     | H0583: 1 and H0576: 1.   |   |  |
| HTWJC75 | 767134 | 6318 | 3 - 77    | 16070 | Glu-3 to Glu-13, Lys-15 to Asn-22.                    | H0576: 2   | 2 |  |
| HTWJC85 | 757125 | 6319 | 200 - 334 | 16071 | Arg-27 to Tyr-32.                                     | H0556: 1 and H0576: 1.   |   |  |
| HTWJF59 | 693116 | 6320 | 197 - 361 | 16072 | Met-1 to Gly-25, Tyr-27 to Met-39.                    | H0576: 1 and H0444: 1.   |   |  |
| HTWJF66 | 576164 | 6321 | 204 - 443 | 16073 | Gln-5 to Phe-10.                                      | H0255: 1, H0576: 1 and H0423: 1.                               |   |  |
| HTWJF95 | 745182 | 6322 | 78 - 248  | 16074 |   | H0402: 1, H0576: 1 and H0423: 1.                               |   |  |
| HTWJH57 | 812698 | 6323 | 68 - 265  | 16075 | Trp-4 to Ser-9, Pro-54 to Pro-61.                     | H0576: 1 and H0445: 1.   |   |  |
| HTWJL91 | 789487 | 6324 | 243 - 368 | 16076 |   | S0114: 1, H0576: 1 and L0750: 1.                               |   |  |
| HTWJM05 | 850055 | 6325 | 68 - 250  | 16077 |   | H0402: 2 and H0576: 1.   |   |  |
| HTWJO45 | 717592 | 6326 | 43 - 192  | 16078 | Thr-25 to Thr-32, Arg-43 to Lys-49.                   | H0576: 2 and L0776: 1.   |   |  |
| HTWJQ19 | 668466 | 6327 | 253 - 342 | 16079 | Pro-23 to Val-29.                                     | H0254: 1, H0576: 1 and H0422: 1.                               |   |  |
| HTWJY82 | 698335 | 6328 | 1 - 93    | 16080 |   | S0114: 1 and H0576: 1.   |   |  |
| HTWKG30 | 691882 | 6329 | 21 - 131  | 16081 | Pro-1 to Trp-6.                                       | H0589: 1 and H0576: 1.   |   |  |

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| HTWK53  | 728014 | 6330 | 3 - 269   | 16082 | Lys-12 to Met-24,<br>Pro-43 to Asp-50,<br>Glu-63 to Ser-68,<br>Pro-73 to Ser-88. | H0576: 2  |  |  |
| HTWKT61 | 709451 | 6331 | 44 - 118  | 16083 |  | H0576: 2  |  |  |
| HTWKX27 | 574092 | 6332 | 29 - 265  | 16084 | Leu-16 to Val-21.  | S0053: 1, H0576: 1 and<br>L0748: 1.   |  |  |
| HTWKZ04 | 614980 | 6333 | 109 - 294 | 16085 | Phe-5 to Ile-11.   | S0426: 1 and H0576: 1.  |  |  |
| HTWKZ17 | 529749 | 6334 | 234 - 365 | 16086 |  | H0265: 2 and H0576: 1.  |  |  |
| HTWLD37 | 841951 | 6335 | 89 - 400  | 16087 |  | S0053: 1 and H0576: 1.  |  |  |
| HTWLG13 | 656772 | 6336 | 2 - 160   | 16088 | Gln-43 to Gly-53.  | H0255: 1 and H0576: 1.  |  |  |
| HTWLG76 | 795694 | 6337 | 267 - 539 | 16089 |  | S0182: 1 and H0576: 1.  |  |  |
| HTXAK52 | 869460 | 6338 | 7 - 264   | 16090 | Arg-1 to Gly-14.   | H0265: 1 and H0318: 1.  |  |  |
| HTXAK78 | 530137 | 6339 | 174 - 347 | 16091 | Leu-30 to Thr-35.  | H0265: 2  |  |  |
| HTXAO23 | 676386 | 6340 | 15 - 92   | 16092 |  | H0265: 1 and S0114: 1.  |  |  |
| HTXBF75 | 963029 | 6341 | 98 - 277  | 16093 | Ser-23 to Gln-40.  | H0265: 1 and H0556: 1.  |  |  |
| HTXBH24 | 418592 | 6342 | 2 - 151   | 16094 |  | H0265: 2  |  |  |
| HTXBJ36 | 529759 | 6343 | 17 - 232  | 16095 | Ser-13 to Leu-19.  | H0265: 2  |  |  |
| HTXBJ92 | 706472 | 6344 | 227 - 361 | 16096 |  | L0749: 2, H0265: 1, H0402:<br>1 and L0667: 1.   |  |  |
| HTXBK75 | 869401 | 6345 | 1 - 123   | 16097 |  | H0265: 2  |  |  |
| HTXBN83 | 781443 | 6346 | 3 - 101   | 16098 |  | H0265: 1 and S0218: 1.  |  |  |
| HTXBO11 | 967750 | 6347 | 176 - 400 | 16099 | Lys-25 to Pro-31.  | H0265: 1 and H0421: 1.  |  |  |
| HTXBO21 | 869461 | 6348 | 2 - 193   | 16100 |  | H0265: 1 and H0542: 1.  |  |  |
| HTXBO51 | 970855 | 6349 | 146 - 592 | 16101 | Leu-1 to Gln-19,<br>Ala-84 to Gly-99,<br>Pro-128 to Arg-142.                     | L0777: 2, H0265: 1, H0556:<br>1, H0255: 1, L0662: 1,<br>L0375: 1, L0378: 1 and<br>L0519: 1. |  |  |
| HTXBX49 | 529662 | 6350 | 91 - 195  | 16102 |  | H0265: 2  |  |  |
| HTXBX77 | 529661 | 6351 | 120 - 353 | 16103 | Ser-59 to Gln-64.  | H0265: 2  |  |  |
| HTXCB32 | 529615 | 6352 | 199 - 402 | 16104 | Pro-21 to Lys-32.  | H0265: 2 and L0596: 1.  |  |  |
| HTXCL28 | 952022 | 6353 | 56 - 175  | 16105 |  | H0265: 2 and H0556: 1.  |  |  |
| HTXCU76 | 765655 | 6354 | 188 - 589 | 16106 | Cys-122 to His-131.  | H0265: 1, H0556: 1, H0457:<br>1 and L0766: 1.   |  |  |
| HTXCW16 | 522365 | 6355 | 50 - 265  | 16107 | Val-10 to Cys-17.  | H0265: 2  |  |  |

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|---------|--------|------|------------|-------|--|--|---|-------|---|
| HTXCW27 | 491257 | 6356 | 378 - 166  | 16108 |  |  | H0265: 1 and H0522: 1.  |       |   |
| HTXCX05 | 932476 | 6357 | 148 - 303  | 16109 |  |  | H0265: 1 and H0556: 1.  |       |   |
| HTXCY16 | 537413 | 6358 | 1 - 231    | 16110 |  | Arg-12 to Gly-21,<br>Ala-23 to His-32,<br>Ala-59 to Gln-71.                    | H0265: 2  |       |   |
| HTXCY84 | 924996 | 6359 | 2 - 241    | 16111 |  |  | H0265: 2  |       |   |
| HTXCZ16 | 537485 | 6360 | 213 - 416  | 16112 |  | Glu-14 to Asp-19.  | H0265: 2  |       |   |
| HTXDG37 | 968886 | 6361 | 71 - 466   | 16113 |  | Arg-5 to Gly-13.   | AR051: 14, AR050: 13<br>H0265: 1, L0637: 1, L0766:<br>1 and H0521: 1. |       |   |
| HTXDI51 | 537474 | 6362 | 86 - 235   | 16114 |  | Ser-28 to Val-34,<br>Leu-43 to Arg-48.   | H0265: 2  |       |   |
| HTXDO50 | 537487 | 6363 | 120 - 314  | 16115 |  |  | H0265: 2  |       |   |
| HTXDQ25 | 869369 | 6364 | 1 - 306    | 16116 |  | Ser-4 to Ser-15.   | H0265: 1 and H0556: 1.  |       |   |
| HTXDS80 | 869435 | 6365 | 2 - 82     | 16117 |  | Pro-1 to Lys-9.  | H0265: 2  |       |   |
| HTXDW14 | 966588 | 6366 | 1145 - 432 | 16118 |  | Tyr-17 to Asp-22,<br>Pro-75 to Ser-81.   | H0265: 1, H0583: 1 and<br>L0741: 1.                                   |       |   |
| HTXDX61 | 784768 | 6367 | 1 - 423    | 16119 |  | Arg-1 to Asp-16.   | AR061: 6, AR089: 3<br>H0265: 1, H0264: 1, H0488:<br>1 and H0543: 1.   |       |   |
| HTXDX82 | 931113 | 6368 | 307 - 513  | 16120 |  | Leu-20 to His-31.  | H0265: 1 and H0556: 1.  |       |   |
| HTXDZ01 | 921486 | 6369 | 62 - 223   | 16121 |  |  | H0265: 2 and S0134: 1.  |       |   |
| HTXEA41 | 974530 | 6370 | 198 - 422  | 16122 |  | Thr-1 to Trp-10,<br>Phe-18 to Arg-25.  | H0265: 2  |       |   |
| HTXEA62 | 812833 | 6371 | 22 - 294   | 16123 |  |  | H0265: 1 and S0428: 1.  |       |   |
| HTXEC53 | 529755 | 6372 | 118 - 369  | 16124 |  | Thr-1 to Asn-7,<br>Phe-21 to Ser-27.   | H0265: 2 and L0589: 1.  |       |   |
| HTXEE70 | 537405 | 6373 | 2 - 157    | 16125 |  | Pro-26 to Pro-37.  | H0265: 1 and H0264: 1.  |       |   |
| HTXEM54 | 764221 | 6374 | 109 - 261  | 16126 |  | Arg-4 to Pro-11,<br>Thr-45 to Glu-50.  | H0265: 2  | 17p13 | 138190, 254210,<br>271900, 600179,<br>600977, 601202,<br>601777 |
| HTXEP20 | 537483 | 6375 | 3 - 194    | 16127 |  | Gly-1 to Gln-9,<br>Trp-11 to Arg-21,<br>Gly-26 to Lys-32,<br>Ala-38 to Phe-50. | H0265: 2  |       |   |

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| HTXEP49 | 722181 | 6376 | 191 - 400 | 16128 |  | L0589: 2, H0265: 1 and H0090: 1.                                |  |  |
| HTXEP76 | 527697 | 6377 | 114 - 365 | 16129 |  | H0265: 1, H0305: 1 and S0426: 1.                                |  |  |
| HTXEQ05 | 932471 | 6378 | 65 - 235  | 16130 |  | H0265: 2 and H0305: 1.  |  |  |
| HTXET61 | 537471 | 6379 | 3 - 191   | 16131 |  | H0265: 2  |  |  |
| HTXET67 | 783784 | 6380 | 68 - 211  | 16132 |  | H0265: 1 and H0556: 1.  |  |  |
| HTXET75 | 664468 | 6381 | 1 - 174   | 16133 |  | H0265: 1 and S0053: 1.  |  |  |
| HTXEW14 | 932437 | 6382 | 37 - 219  | 16134 |  | H0265: 2  |  |  |
| HTXFB03 | 924995 | 6383 | 176 - 316 | 16135 |  | H0265: 2, S0134: 1, S0474: 1, L0662: 1, H0576: 1 and L0599: 1.  |  |  |
| HTXFB78 | 869408 | 6384 | 3 - 263   | 16136 |  | H0265: 1 and H0556: 1.  |  |  |
| HTXFB95 | 537399 | 6385 | 3 - 332   | 16137 |  | H0265: 2  |  |  |
| HTXFC07 | 918644 | 6386 | 254 - 430 | 16138 |  | H0265: 1, H0556: 1 and L0749: 1.                                |  |  |
| HTXFD75 | 537401 | 6387 | 94 - 231  | 16139 |  | H0265: 2  |  |  |
| HTXFE47 | 790855 | 6388 | 189 - 464 | 16140 |  | H0556: 20, H0265: 8, H0638: 1, H0660: 1, H0521: 1 and L0749: 1. |  |  |
| HTXFF04 | 615593 | 6389 | 399 - 653 | 16141 |  | H0265: 1, H0318: 1 and L0748: 1.                                |  |  |
| HTXFF66 | 973429 | 6390 | 91 - 438  | 16142 |  | H0265: 2 and H0556: 1.  |  |  |
| HTXFF91 | 780083 | 6391 | 145 - 258 | 16143 |  | H0265: 2  |  |  |
| HTXFI58 | 557838 | 6392 | 2 - 151   | 16144 |  | H0265: 2  |  |  |
| HTXFK45 | 523385 | 6393 | 108 - 218 | 16145 |  | H0265: 2  |  |  |
| HTXFN69 | 869397 | 6394 | 3 - 476   | 16146 |  | H0265: 1, H0556: 1 and H0607: 1.                                |  |  |
| HTXFAQ5 | 926534 | 6395 | 442 - 549 | 16147 |  | H0265: 1 and H0370: 1.  |  |  |
| HTXFS95 | 796025 | 6396 | 23 - 325  | 16148 |  | H0265: 1, H0556: 1 and  |  |  |

|         |        |      |           |       |   |   |  |
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| HTXFT03 | 924952 | 6397 | 2 - 100   | 16149 |   | S0216: 1.                                     |  |
| HTXFT60 | 923937 | 6398 | 2 - 244   | 16150 | Ala-1 to Cys-9,<br>Cys-13 to Gly-18.  | H0556: 7, H0265: 1 and<br>L0748: 1.           |  |
| HTXJV22 | 537491 | 6399 | 167 - 322 | 16151 |   | H0265: 2                                      |  |
| HTXGB20 | 933878 | 6400 | 1 - 93    | 16152 |   | H0265: 1 and H0556: 1.                        |  |
| HTXGB65 | 577711 | 6401 | 182 - 448 | 16153 | Met-26 to Pro-39.   | H0305: 2, H0265: 1, H0589:<br>1 and L0592: 1. |  |
| HTXGD30 | 529724 | 6402 | 63 - 185  | 16154 | Gly-5 to Leu-12.  | H0265: 2 and H0556: 1.                        |  |
| HTXGL73 | 529745 | 6403 | 15 - 242  | 16155 |   | H0265: 2 and H0556: 2.                        |  |
| HTXGN76 | 527016 | 6404 | 246 - 500 | 16156 |   | H0265: 2 and H0318: 1.                        |  |
| HTXGO74 | 869391 | 6405 | 1 - 84    | 16157 |   | H0265: 2                                      |  |
| HTXGQ37 | 575461 | 6406 | 49 - 306  | 16158 | Gly-40 to Lys-46.   | H0265: 1 and S0114: 1.                        |  |
| HTXHA16 | 661818 | 6407 | 46 - 351  | 16159 | Gly-17 to Gln-23.   | H0265: 2                                      |  |
| HTXHD24 | 727469 | 6408 | 53 - 274  | 16160 |   | H0265: 2 and H0556: 1.                        |  |
| HTXJA66 | 698461 | 6409 | 26 - 238  | 16161 | Lys-41 to Leu-51.   | H0265: 1 and H0556: 1.                        |  |
| HTXJB15 | 660059 | 6410 | 131 - 277 | 16162 |   | H0556: 2                                      |  |
| HTXJB35 | 707768 | 6411 | 43 - 348  | 16163 | Gly-60 to Gly-67.   | H0556: 1, H0625: 1, L0603:<br>1 and L0697: 1. |  |
| HTXJC65 | 666565 | 6412 | 1 - 177   | 16164 | Thr-11 to Tyr-19,<br>Phe-32 to Phe-38.  | H0556: 1, L0520: 1, L0794:<br>1 and H0422: 1. |  |
| HTXJE76 | 745813 | 6413 | 166 - 318 | 16165 |   | H0265: 1 and H0556: 1.                        |  |
| HTXJF30 | 692607 | 6414 | 106 - 456 | 16166 |   | H0556: 1, H0421: 1 and<br>L0766: 1.           |  |
| HTXJG06 | 933230 | 6415 | 161 - 379 | 16167 | Lys-1 to Gly-20,<br>Leu-31 to Phe-36,<br>Met-39 to Gly-48,<br>Gln-57 to Arg-67. | H0543: 2, H0265: 1, H0556:<br>1 and H0423: 1. |  |
| HTXJG19 | 974010 | 6416 | 213 - 335 | 16168 |   | H0265: 1 and H0556: 1.                        |  |
| HTXJG23 | 675315 | 6417 | 265 - 414 | 16169 | Ser-24 to Lys-31,<br>Val-45 to Ser-50.  | H0556: 3                                      |  |
| HTXJG53 | 752160 | 6418 | 2 - 307   | 16170 | Gly-19 to Gly-24,<br>Ser-75 to Gly-83.  | L0742: 2, H0556: 1, H0255:<br>1 and L0754: 1. |  |
| HTXJH73 | 582143 | 6419 | 152 - 304 | 16171 | Val-37 to Glu-42.   | H0265: 1 and H0556: 1.                        |  |



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| HTXJL68 | 912611 | 6420 | 1 - 297   | 16172 | Ile-2 to Cys-14,<br>Asp-38 to Leu-43.                       | H0556: 2   |  |
| HTXJ55  | 959169 | 6421 | 61 - 288  | 16173 |   | H0556: 2   |  |
| HTXJK23 | 675782 | 6422 | 77 - 340  | 16174 | Pro-7 to Pro-14,<br>Pro-55 to Ser-61,<br>Gly-70 to Asp-76.  | H0556: 1 and S0002: 1.                                       |  |
| HTXJL01 | 916254 | 6423 | 116 - 334 | 16175 |   | S0052: 3, H0556: 1 and<br>L0777: 1.                          |  |
| HTXJL02 | 919691 | 6424 | 259 - 483 | 16176 |   | H0556: 1, H0650: 1 and<br>L0759: 1.                          |  |
| HTXJM73 | 783572 | 6425 | 1 - 138   | 16177 | Gly-3 to Pro-11.  | H0556: 2   |  |
| HTXJN04 | 566887 | 6426 | 298 - 684 | 16178 | Ser-41 to Ser-49,<br>Gly-77 to Arg-83,<br>Arg-91 to Arg-96. | AR051: 46, AR050: 46,<br>AR054: 28<br>H0556: 2 and H0265: 1. |  |
| HTXJN68 | 752940 | 6427 | 79 - 288  | 16179 | Gln-13 to Thr-18.   | H0556: 1 and S0002: 1.                                       |  |
| HTXJO34 | 703973 | 6428 | 82 - 225  | 16180 | Arg-8 to Asp-17.  | H0265: 1 and H0556: 1.                                       |  |
| HTXJO61 | 663153 | 6429 | 2 - 361   | 16181 | Pro-20 to Arg-28.   | H0556: 2   |  |
| HTXJO85 | 869123 | 6430 | 24 - 341  | 16182 | Arg-52 to Ser-57,<br>Gly-67 to Cys-78.                      | H0556: 2 and L0599: 1.                                       |  |
| HTXJP28 | 974315 | 6431 | 35 - 355  | 16183 |   | H0265: 1, H0556: 1 and<br>H0635: 1.                          |  |
| HTXJQ73 | 719077 | 6432 | 373 - 513 | 16184 | Ile-7 to Ser-12.  | H0556: 1 and S0052: 1.                                       |  |
| HTXJR67 | 739586 | 6433 | 3 - 182   | 16185 |   | H0265: 1 and H0556: 1.                                       |  |
| HTXJS64 | 746481 | 6434 | 430 - 570 | 16186 | Gln-5 to Arg-12,<br>Arg-16 to Cys-27.                       | H0556: 1, H0581: 1 and<br>H0445: 1.                          |  |
| HTXJV49 | 867083 | 6435 | 235 - 726 | 16187 | Leu-21 to Gln-32,<br>Gly-39 to Ser-63.                      | H0265: 1 and H0556: 1.                                       |  |
| HTXJW56 | 859854 | 6436 | 2 - 295   | 16188 | Lys-1 to Thr-10.  | H0556: 1 and S0216: 1.                                       |  |
| HTXJY51 | 872233 | 6437 | 8 - 229   | 16189 | Lys-1 to His-7,<br>Cys-37 to Arg-43.                        | H0556: 1, S0052: 1 and<br>H0521: 1.                          |  |
| HTXKB42 | 841986 | 6438 | 135 - 326 | 16190 | Lys-19 to Thr-30.   | H0556: 2   |  |
| HTXKC23 | 529756 | 6439 | 90 - 233  | 16191 |   | H0556: 4, H0265: 2 and<br>L0601: 1.                          |  |
| HTXKD62 | 743435 | 6440 | 1 - 285   | 16192 | Pro-10 to Lys-16,<br>Asn-22 to Pro-33.                      | H0265: 1 and H0556: 1.                                       |  |
| HTXKH47 | 720186 | 6441 | 202 - 330 | 16193 |   | H0556: 2   |  |

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| HTXKJ93 | 796245 | 6442 | 1 - 264   | 16194 | Cys-9 to Gly-14.  | H0265: 1, H0556: 1 and L0748: 1.             | 12    |  |
| HTXKJ55 | 671285 | 6443 | 121 - 315 | 16195 | His-2 to His-7.   | H0265: 1, H0556: 1 and L0543: 1.             |       |  |
| HTXKJ58 | 574788 | 6444 | 1 - 486   | 16196 | Arg-1 to Leu-11, Ser-54 to Val-59, Gly-61 to Tyr-67, Pro-76 to Pro-94, Glu-99 to Ala-104. | H0271: 7, H0556: 1 and H0416: 1.             |       |  |
| HTXKJ89 | 767234 | 6445 | 203 - 385 | 16197 | Thr-7 to Trp-15, Pro-19 to Ile-25, Gly-42 to Val-47.                                      | H0556: 2                                     |       |  |
| HTXKJ95 | 795788 | 6446 | 43 - 234  | 16198 | Pro-42 to Arg-47.   | H0556: 2                                     |       |  |
| HTXKK62 | 751050 | 6447 | 3 - 347   | 16199 |   | H0556: 1, S0278: 1, L0805: 1 and H0422: 1.   | 12q22 | 147440, 201470, 235800, 273300                 |
| HTXKM25 | 664886 | 6448 | 2 - 175   | 16200 | Glu-1 to Trp-13, His-36 to Arg-41.  | H0265: 1 and H0556: 1.                       |       |  |
| HTXKM84 | 782951 | 6449 | 31 - 216  | 16201 |   | H0265: 1 and H0556: 1.                       |       |  |
| HTXKN90 | 787551 | 6450 | 190 - 309 | 16202 |   | H0556: 3                                     |       |  |
| HTXKP42 | 713631 | 6451 | 321 - 452 | 16203 | Lys-5 to Asn-11.  | L0439: 4 and H0556: 2.                       |       |  |
| HTXKQ25 | 934801 | 6452 | 137 - 364 | 16204 | Glu-22 to His-37, Phe-67 to Arg-76.   | H0556: 1, S0218: 1 and L0754: 1.             |       |  |
| HTXKQ55 | 947789 | 6453 | 3 - 305   | 16205 | Asp-21 to Lys-26.   | AR061: 2, AR089: 2<br>H0265: 1 and H0556: 1. | 13q12 | 121011, 121011, 129500, 253700, 601885, 602221 |
| HTXKS02 | 919676 | 6454 | 84 - 293  | 16206 |   | H0556: 2                                     |       |  |
| HTXKU69 | 754404 | 6455 | 42 - 410  | 16207 | Arg-7 to Ala-19.  | H0556: 2 and L0757: 1.                       |       |  |
| HTXKV16 | 869348 | 6456 | 221 - 376 | 16208 | Arg-1 to Thr-10, Met-25 to Asp-39.  | H0556: 2                                     |       |  |
| HTXKV38 | 918567 | 6457 | 7 - 192   | 16209 |   | H0556: 3 and H0445: 1.                       |       |  |
| HTXKZ89 | 786409 | 6458 | 186 - 305 | 16210 |   | H0063: 2 and H0556: 1.                       |       |  |
| HTXLA63 | 917316 | 6459 | 140 - 409 | 16211 | Leu-1 to Ala-6, Ser-48 to Lys-53.   | H0556: 1, S0114: 1 and S0116: 1.             |       |  |
| HTXLD06 | 934555 | 6460 | 243 - 491 | 16212 | Tyr-37 to Gly-43, Arg-45 to Val-52, Lys-63 to Gly-70.                                     | H0556: 2 and S0052: 1.                       |       |  |

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| HTXLD68 | 752484 | 6461 | 3 - 272   | 16213 | His-7 to Gly-17,<br>Glu-23 to Ile-31,<br>Ala-38 to Phe-43.  | H0265: 1, H0556: 1 and<br>H0436: 1.   |  |  |
| HTXLE37 | 790392 | 6462 | 22 - 228  | 16214 |   | H0265: 1, H0556: 1 and<br>L0545: 1.   |  |  |
| HTXLE56 | 861983 | 6463 | 350 - 535 | 16215 | Lys-14 to Ser-19,<br>Gln-36 to Arg-43.                      | H0556: 1, H0300: 1 and<br>H0179: 1.   |  |  |
| HTXLE75 | 766798 | 6464 | 404 - 670 | 16216 | Thr-1 to Lys-10,<br>Glu-36 to Cys-50.                       | H0556: 1, H0264: 1, L0804:<br>1 and H0445: 1.   |  |  |
| HTXLE79 | 774125 | 6465 | 76 - 420  | 16217 | Trp-29 to Arg-35.   | H0265: 1 and H0556: 1.  |  |  |
| HTXLF08 | 958421 | 6466 | 3 - 119   | 16218 | Ala-6 to Arg-11.  | H0556: 1, L0665: 1, L0750:<br>1 and H0445: 1.   |  |  |
| HTXLG57 | 790610 | 6467 | 1 - 306   | 16219 | Arg-28 to Gln-35,<br>Thr-44 to Lys-51,<br>Lys-55 to Gly-61. | H0556: 1 and H0090: 1.  |  |  |
| HTXLG64 | 974598 | 6468 | 392 - 667 | 16220 |   | H0265: 2 and H0556: 1.  |  |  |
| HTXLH60 | 869336 | 6469 | 275 - 421 | 16221 |   | H0556: 2  |  |  |
| HTXLI65 | 974018 | 6470 | 277 - 456 | 16222 |   | H0556: 2 and H0265: 1.  |  |  |
| HTXLJ91 | 787577 | 6471 | 178 - 381 | 16223 | Gln-29 to Gln-35,<br>Ser-58 to Gln-67.                      | H0556: 2  |  |  |
| HTXLJ70 | 756679 | 6472 | 401 - 631 | 16224 | Arg-36 to Ala-42.   | H0556: 1 and H0271: 1.  |  |  |
| HTXLK35 | 840283 | 6473 | 249 - 455 | 16225 |   | L0766: 2, H0556: 1, H0656:<br>1, H0255: 1, L0740: 1,<br>L0749: 1, H0444: 1 and<br>L0592: 1. |  |  |
| HTXLK95 | 795355 | 6474 | 161 - 286 | 16226 | Arg-1 to Ser-15.  | H0265: 1 and H0556: 1.  |  |  |
| HTXLL78 | 773071 | 6475 | 1 - 183   | 16227 | Thr-24 to Gln-34.   | H0556: 2  |  |  |
| HTXLL89 | 786475 | 6476 | 114 - 287 | 16228 | Pro-41 to Thr-46.   | H0556: 3 and H0265: 1.  |  |  |
| HTXLN72 | 951958 | 6477 | 3 - 158   | 16229 |   | H0556: 3  |  |  |
| HTXLO02 | 918658 | 6478 | 126 - 356 | 16230 |   | H0556: 2 and L0748: 1.  |  |  |
| HTXLO14 | 869332 | 6479 | 167 - 358 | 16231 |   | H0556: 2  |  |  |
| HTXLP15 | 869202 | 6480 | 206 - 466 | 16232 | Glu-27 to Met-32.   | H0556: 4  |  |  |
| HTXLP18 | 973431 | 6481 | 67 - 279  | 16233 | Glu-14 to His-21,<br>His-36 to Lys-45.                      | H0556: 5 and H0265: 1.  |  |  |
| HTXLQ28 | 869331 | 6482 | 1 - 267   | 16234 | Ser-8 to Asp-13,<br>Gly-26 to Trp-32.                       | H0556: 2 and H0265: 1.  |  |  |

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|---------|--------|------|-----------|-------|-------|-------------------|--|---|--|
| HTXLT33 | 919761 | 6483 |           |       |       | Arg-44 to Leu-49. |  |   |  |
| HTXLU64 | 783411 | 6484 | 1 - 147   | 16235 | 16236 | Ser-18 to Asp-24. |  | H0556: 1 and H0543: 1.                                  |  |
|         |        |      | 63 - 266  |       |       | Gln-9 to Phe-14,  |  | H0265: 1 and H0556: 1.                                  |  |
|         |        |      |           |       |       | Asn-27 to Asn-32. |  |   |  |
| HTXLU82 | 779215 | 6485 | 1 - 297   | 16237 |       | Pro-33 to Ser-43, |  | H0265: 1 and H0556: 1.                                  |  |
|         |        |      |           |       |       | Glu-59 to Phe-64. |  |   |  |
| HTXLV39 | 972762 | 6486 | 210 - 482 | 16238 |       |                   |  | H0556: 2 and S0114: 1.                                  |  |
| HTXLY02 | 866819 | 6487 | 185 - 379 | 16239 |       | Pro-13 to Arg-18, |  | H0556: 1 and S0114: 1.                                  |  |
|         |        |      |           |       |       | Leu-39 to Asn-44, |  |   |  |
|         |        |      |           |       |       | Ser-58 to Tyr-63. |  |   |  |
| HTXMC82 | 779198 | 6488 | 181 - 525 | 16240 |       | Gln-31 to Phe-36. |  | H0556: 2 and H0265: 1.                                  |  |
| HTXMH13 | 928105 | 6489 | 319 - 480 | 16241 |       | Ala-1 to His-7.   |  | H0265: 1 and H0556: 1.                                  |  |
| HTXMH80 | 775487 | 6490 | 528 - 803 | 16242 |       |                   |  | H0556: 1 and H0069: 1.                                  |  |
| HTXMI18 | 921101 | 6491 | 82 - 282  | 16243 |       |                   |  | H0556: 1 and T0041: 1.                                  |  |
| HTXMI62 | 870456 | 6492 | 1 - 402   | 16244 |       | Arg-4 to Pro-13,  |  | H0556: 2  |  |
|         |        |      |           |       |       | Gly-45 to Val-52. |  |   |  |
| HTXMI03 | 923001 | 6493 | 141 - 350 | 16245 |       |                   |  | H0265: 1 and H0556: 1.                                  |  |
| HTXMI50 | 830027 | 6494 | 2 - 358   | 16246 |       | Asp-1 to Glu-6,   |  | H0265: 2, H0556: 1 and                                  | Xq21   |
|         |        |      |           |       |       | Ile-14 to Ala-21, |  | L0748: 1.   | 305450, 309600,<br>309605, 311360,<br>314580 |
|         |        |      |           |       |       | Pro-49 to Phe-67, |  |   |  |
|         |        |      |           |       |       | His-73 to Ser-98. |  |   |  |
| HTXMO28 | 823172 | 6495 | 2 - 232   | 16247 |       | Gln-7 to Ala-17.  |  | H0556: 2 and L0589: 1.                                  |  |
| HTXMO81 | 869319 | 6496 | 210 - 536 | 16248 |       |                   |  | H0556: 2 and L0415: 1.                                  |  |
| HTXMP92 | 972759 | 6497 | 291 - 566 | 16249 |       | Pro-10 to Asn-16. |  | H0556: 2 and H0265: 1.                                  |  |
| HTXMQ07 | 952206 | 6498 | 115 - 294 | 16250 |       | Asp-1 to Asn-6.   |  | H0556: 1, S0218: 1 and<br>H0591: 1.                     |  |
| HTXMT06 | 933376 | 6499 | 50 - 247  | 16251 |       | Lys-61 to Ala-66. |  | H0265: 1 and H0556: 1.                                  |  |
| HTXMU10 | 961472 | 6500 | 2 - 100   | 16252 |       | Ser-15 to Ala-20. |  | H0556: 2 and H0090: 1.                                  |  |
| HTXMX03 | 923005 | 6501 | 578 - 763 | 16253 |       | Ser-22 to Lys-27. |  | H0556: 2, H0445: 2, L0748:<br>1 and H0444: 1.           |  |
| HTXMX32 | 789063 | 6502 | 3 - 212   | 16254 |       | Glu-8 to Lys-13.  |  | H0556: 1 and H0063: 1.                                  |  |
| HTXMX41 | 789332 | 6503 | 247 - 459 | 16255 |       | Cys-10 to Ala-17, |  | H0556: 1, H0063: 1, L0375:<br>1, L0750: 1 and L0758: 1. |  |
| HTXMY15 | 780129 | 6504 | 253 - 501 | 16256 |       | Thr-39 to Pro-45. |  | H0556: 2 and H0179: 1.                                  |  |
| HTXMY23 | 835044 | 6505 | 522 - 217 | 16257 |       | Glu-1 to Asn-9.   |  | AR051: 38, AR050: 35,                                   |  |
|         |        |      |           |       |       | Asp-19 to Val-24. |  |   |  |

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|          |        |      |           |       |  |  |   |  | AR054: 32<br>H0556: 1 and S0002: 1.                     |  |  |
|          | 835045 | 9610 | 642 - 361 | 19362 |  |  |   |  |   |  |  |
| HTXNMZ91 | 789619 | 6506 | 26 - 148  | 16258 |  |  | Ile-33 to Ser-40.   |  | H0556: 2  |  |  |
| HTXND08  | 869311 | 6507 | 379 - 618 | 16259 |  |  |   |  | H0556: 3, H0583: 1 and<br>H0625: 1.                     |  |  |
| HTXND91  | 789706 | 6508 | 317 - 592 | 16260 |  |  |   |  | H0556: 1 and S0114: 1.                                  |  |  |
| HTXNF56  | 974048 | 6509 | 125 - 373 | 16261 |  |  |   |  | H0556: 2 and H0265: 1.                                  |  |  |
| HTXNJ80  | 966045 | 6510 | 151 - 282 | 16262 |  |  |   |  | H0556: 2  |  |  |
| HTXNM82  | 973993 | 6511 | 218 - 346 | 16263 |  |  |   |  | H0556: 3  |  |  |
| HTXNN03  | 922997 | 6512 | 262 - 405 | 16264 |  |  |   |  | H0556: 2  |  |  |
| HTXNN33  | 780965 | 6513 | 692 - 483 | 16265 |  |  | Gly-5 to Leu-10.  |  | H0556: 5, L0766: 2, H0265:<br>1, H0521: 1 and L0748: 1. |  |  |
| HTXNO48  | 963444 | 6514 | 154 - 255 | 16266 |  |  |   |  | H0556: 2  |  |  |
| HTXNO58  | 916249 | 6515 | 115 - 414 | 16267 |  |  | Gln-17 to Gln-39,<br>Gln-62 to Lys-67,<br>Leu-71 to Gln-76.                       |  | H0556: 2  |  |  |
| HTXNQ06  | 934303 | 6516 | 157 - 288 | 16268 |  |  |   |  | H0556: 1 and H0445: 1.                                  |  |  |
| HTXNQ63  | 951939 | 6517 | 29 - 229  | 16269 |  |  | Pro-1 to Gly-9,<br>Lys-16 to Cys-27.  |  | H0556: 3  |  |  |
| HTXNR01  | 913781 | 6518 | 151 - 396 | 16270 |  |  |   |  | H0556: 2, H0265: 1, H0255:<br>1 and H0444: 1.           |  |  |
| HTXNR17  | 856465 | 6519 | 45 - 479  | 16271 |  |  | Arg-1 to Lys-14,<br>Glu-37 to Gly-43,<br>Cys-47 to Gly-57,<br>Ala-103 to Gly-108. |  | H0556: 8, H0265: 1, S0114:<br>1, H0445: 1 and H0542: 1. |  |  |
| HTXNT07  | 952165 | 6520 | 182 - 775 | 16272 |  |  | Pro-14 to Pro-28.   |  | L0740: 3, L0777: 2, H0556:<br>1, S0114: 1 and L0780: 1. |  |  |
| HTXNT43  | 869398 | 6521 | 509 - 664 | 16273 |  |  |   |  | H0265: 1 and H0556: 1.                                  |  |  |
| HTXNT76  | 869189 | 6522 | 481 - 732 | 16274 |  |  |   |  | H0556: 2, L0439: 2, L0438:<br>1, L0747: 1 and L0749: 1. |  |  |
| HTXNU51  | 972837 | 6523 | 3 - 350   | 16275 |  |  |   |  | H0556: 3  |  |  |
| HTXNY70  | 869289 | 6524 | 67 - 315  | 16276 |  |  | Val-27 to Leu-32.   |  | H0556: 2  |  |  |
| HTXNY74  | 918076 | 6525 | 36 - 536  | 16277 |  |  | Arg-1 to Gly-7,<br>Phe-11 to Arg-23.  |  | H0556: 2 and H0179: 1.                                  |  |  |
| HTXOC32  | 869280 | 6526 | 394 - 639 | 16278 |  |  |   |  | H0556: 2 and H0265: 1.                                  |  |  |

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| HTXOD62 | 806643 | 6527 | 13 - 234  | 16279 |  |  | H0556: 1 and H0522: 1.                                  |  |  |
| HTXOG84 | 929289 | 6528 | 20 - 358  | 16280 |  | His-2 to Gly-10,<br>Glu-22 to Arg-28.                      | H0265: 1, H0556: 1, H0657:<br>1 and H0543: 1.           |  |  |
| HTXOH04 | 926909 | 6529 | 119 - 295 | 16281 |  |  | H0556: 2  |  |  |
| HTXOH60 | 869271 | 6530 | 2 - 172   | 16282 |  |  | H0265: 1 and H0556: 1.                                  |  |  |
| HTXOI50 | 869279 | 6531 | 348 - 554 | 16283 |  |  | H0556: 4  |  |  |
| HTXOI92 | 974039 | 6532 | 280 - 477 | 16284 |  | Asn-1 to Arg-11,<br>Pro-13 to Ser-24.                      | H0265: 2, H0556: 2, H0255:<br>2 and H0423: 1.           |  |  |
| HTXOM10 | 963435 | 6533 | 1 - 108   | 16285 |  | Met-13 to His-21.  | H0265: 1 and H0556: 1.                                  |  |  |
| HTXOO06 | 934248 | 6534 | 347 - 535 | 16286 |  | Thr-55 to Gln-61.  | H0556: 2, L0749: 2, S0218:<br>1 and L0748: 1.           |  |  |
| HTXOO83 | 898860 | 6535 | 105 - 410 | 16287 |  |  | H0556: 3, S0052: 2, S0134:<br>1, H0306: 1 and S0053: 1. |  |  |
| HTXOR11 | 965090 | 6536 | 2 - 148   | 16288 |  | Lys-1 to Glu-6.  | H0556: 2  |  |  |
| HTXOR48 | 869253 | 6537 | 262 - 591 | 16289 |  | Pro-46 to Gln-52,<br>Thr-61 to Val-70.                     | H0556: 2 and L0595: 1.                                  |  |  |
| HTXOR86 | 914739 | 6538 | 64 - 255  | 16290 |  | Gln-35 to His-44.  | H0556: 4  |  |  |
| HTXOS47 | 965558 | 6539 | 34 - 198  | 16291 |  | Gln-1 to Gly-8.  | H0556: 3, L0759: 3, S0212:<br>1 and L0805: 1.           |  |  |
| HTXOT42 | 974034 | 6540 | 74 - 433  | 16292 |  |  | H0556: 7, H0265: 1 and<br>L0748: 1.                     |  |  |
| HTXOU06 | 852057 | 6541 | 329 - 547 | 16293 |  |  | H0556: 2 and H0486: 1.                                  |  |  |
| HTXOU48 | 869252 | 6542 | 2 - 262   | 16294 |  | Lys-1 to Tyr-11,<br>Thr-13 to Lys-21,<br>Ser-79 to Arg-87. | H0556: 2  |  |  |
| HTXOU67 | 906909 | 6543 | 229 - 414 | 16295 |  | Pro-22 to Ser-28.  | H0556: 2  |  |  |
| HTXOX02 | 918556 | 6544 | 329 - 553 | 16296 |  | Arg-8 to Arg-14.   | H0556: 1 and H0318: 1.                                  |  |  |
| HTXOX42 | 920274 | 6545 | 209 - 553 | 16297 |  | Pro-45 to Ser-53.  | H0255: 2 and H0556: 1.                                  |  |  |
| HTXOZ02 | 918566 | 6546 | 95 - 289  | 16298 |  |  | H0556: 2  |  |  |
| HTXPF93 | 954976 | 6547 | 2 - 178   | 16299 |  |  | AR051: 33, AR054: 28,<br>AR050: 24                      |  |  |
| HTXPJ03 | 922877 | 6548 | 274 - 486 | 16300 |  |  | H0556: 2  |  |  |
| HTXPK10 | 963397 | 6549 | 112 - 450 | 16301 |  | Ser-1 to Thr-13.   | H0556: 1 and H0271: 1.                                  |  |  |
| HTXPK28 | 957888 | 6550 | 55 - 231  | 16302 |  |  | H0556: 2 and H0521: 1.                                  |  |  |
|         |        |      |           |       |  |  | H0556: 4 and H0265: 1.                                  |  |  |

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| HTXPO91 | 869224 | 6551 | 114 - 350 | 16303 | Gln-23 to Leu-28,<br>Trp-66 to Gln-74.   | H0436: 2 and H0556: 1.                                     |  |
| HTXPO92 | 869214 | 6552 | 330 - 518 | 16304 | Thr-30 to Thr-37.  | H0556: 2   |  |
| HTXPP33 | 799925 | 6553 | 3 - 635   | 16305 |  | AR054: 10, AR050: 8,<br>AR051: 2<br>H0265: 2 and H0556: 1. |  |
| HTXPR92 | 869221 | 6554 | 36 - 320  | 16306 | Arg-15 to Ser-21,<br>Arg-25 to Gly-30,<br>Lys-74 to Lys-81.  | H0556: 2   |  |
| HTXPT68 | 870074 | 6555 | 2 - 469   | 16307 | Pro-46 to Ser-51.  | AR089: 2, AR061: 2<br>H0556: 2                             |  |
| HTXPW03 | 922884 | 6556 | 94 - 330  | 16308 |  | H0265: 1 and H0556: 1.                                     |  |
| HTXPW20 | 869198 | 6557 | 252 - 485 | 16309 | Leu-12 to Glu-24,<br>Lys-52 to Ala-57.   | H0556: 2   |  |
| HTXPX02 | 918494 | 6558 | 117 - 470 | 16310 | Leu-7 to Gly-17,<br>Thr-20 to Glu-29,<br>Gln-45 to Phe-52,<br>Phe-56 to Tyr-61,<br>Glu-102 to Gln-116. | H0556: 2, H0265: 1 and<br>L0523: 1.                        |  |
| HTXQA18 | 869184 | 6559 | 375 - 605 | 16311 | Thr-31 to Pro-38,<br>Pro-68 to Gln-73.   | S0114: 3 and H0556: 1.                                     |  |
| HTXQC36 | 961161 | 6560 | 337 - 522 | 16312 | Arg-37 to Tyr-44.  | H0556: 1 and H0255: 1.                                     |  |
| HTXQC77 | 974033 | 6561 | 444 - 698 | 16313 | Ser-2 to Ser-8.  | H0556: 3 and H0265: 1.                                     |  |
| HTXQF10 | 963403 | 6562 | 386 - 541 | 16314 |  | H0265: 1 and H0556: 1.                                     |  |
| HTXQM11 | 963645 | 6563 | 121 - 303 | 16315 | Thr-5 to Gly-10,<br>Glu-52 to Leu-60.  | H0556: 1 and S0053: 1.                                     |  |
| HTXQN24 | 963503 | 6564 | 1 - 447   | 16316 | Pro-6 to Gly-12.   | H0556: 2 and L0758: 1.                                     |  |
| HTXQR90 | 869139 | 6565 | 2 - 421   | 16317 | Met-11 to His-26,<br>Ser-62 to Ser-67,<br>Ala-71 to Pro-77.  | H0265: 1 and H0556: 1.                                     |  |
| HTXQU07 | 952030 | 6566 | 43 - 189  | 16318 |  | H0556: 1 and H0543: 1.                                     |  |
| HTXQW02 | 918081 | 6567 | 196 - 459 | 16319 |  | H0556: 2   |  |
| HTXQW29 | 869134 | 6568 | 105 - 386 | 16320 |  | H0556: 2 and T0041: 1.                                     |  |
| HTXRA11 | 965596 | 6569 | 221 - 397 | 16321 |  | H0556: 2   |  |
| HTXRB38 | 869133 | 6570 | 20 - 193  | 16322 | Gln-1 to Gly-9,<br>Lys-47 to Ser-53.   | H0556: 1 and H0486: 1.                                     |  |

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| HTXRC17 | 973981 | 6571 | 91 - 330   | 16323 | Gln-7 to Lys-13,<br>Trp-65 to Thr-72.                       | H0556: 2 and S0218: 1.   |        |  |
| HTXRD51 | 921285 | 6572 | 13 - 219   | 16324 | Pro-11 to Ala-18,<br>Ser-38 to Arg-44,<br>Lys-59 to Pro-68. | H0556: 1 and H0069: 1.   |        |  |
| HTXRE04 | 926371 | 6573 | 3 - 227    | 16325 | Gln-1 to Pro-10,<br>Pro-32 to Arg-50.                       | H0556: 2   |        |  |
| HTXRJ02 | 918031 | 6574 | 1 - 321    | 16326 | Ser-5 to Ser-15,<br>Gly-73 to Asp-86.                       | H0556: 1 and H0318: 1.   |        |  |
| HTXRM86 | 975072 | 6575 | 3 - 578    | 16327 |   | AR061: 2, AR089: 1<br>H0556: 3                                       |        |  |
| HTXRO02 | 918009 | 6576 | 99 - 206   | 16328 |   | H0556: 2   |        |  |
| HTXSB88 | 914627 | 6577 | 541 - 846  | 16329 | Lys-26 to Glu-31,<br>Ala-42 to Tyr-49,<br>Glu-79 to Trp-95. | H0556: 1, H0650: 1 and<br>L0731: 1.                                  |        |  |
| HTXSK91 | 915903 | 6578 | 298 - 462  | 16330 | Glu-4 to Ser-14,<br>Asp-20 to Leu-25.                       | H0556: 1 and H0521: 1.   | Xp21.1 | 301220, 302350,<br>306400, 309470,<br>309585, 311250,<br>312040, 312610,<br>314850 |
| HTXSR92 | 973095 | 6579 | 132 - 428  | 16331 |   | AR089: 0, AR061: 0<br>H0265: 1, H0556: 1 and<br>H0083: 1.            |        |  |
| HTYNC52 | 869119 | 6580 | 451 - 251  | 16332 | Leu-21 to Gly-27,<br>Pro-39 to Lys-57.                      | S0216: 1 and S0452: 1.   |        |  |
| HTYSB62 | 768350 | 6581 | 26 - 250   | 16333 | Val-1 to Ile-8,<br>Glu-64 to Leu-72.                        | H0116: 2   |        |  |
| HTYSD32 | 702994 | 6582 | 1 - 258    | 16334 |   | H0581: 1, H0116: 1 and<br>L0746: 1.                                  |        |  |
| HTZAB04 | 973811 | 6583 | 382 - 648  | 16335 | Thr-1 to Val-7.   | S3018: 2 and S0140: 1.   |        |  |
| HUJAB25 | 878465 | 6584 | 3 - 353    | 16336 | Gly-79 to Cys-84.   | H0650: 2   |        |  |
| HUJAG07 | 951873 | 6585 | 215 - 3    | 16337 | Tyr-2 to Thr-8,<br>Lys-65 to Lys-71.                        | L0766: 4, H0318: 3, H0650:<br>1, L0772: 1 and L0774: 1.              |        |  |
| HUJAM39 | 911399 | 6586 | 631 - 1323 | 16338 | Arg-1 to Trp-7,<br>Arg-14 to Cys-32,<br>Gln-65 to Leu-75.   | H0457: 4, H0650: 1, H0656:<br>1, H0255: 1, H0641: 1 and<br>L0766: 1. |        |  |



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| HUIBL07 | 951874 | 6587 | 1 - 195   | 16339 |  |   | H0650: 1 and H0318: 1.                     |                |                                   |
| HUICB67 | 958914 | 6588 | 2 - 265   | 16340 |  |   | H0318: 2, H0650: 1 and H0488: 1.           |                |                                   |
| HUJCM08 | 957784 | 6589 | 2 - 733   | 16341 |  | Arg-9 to Trp-15,<br>Ser-36 to Lys-49,<br>Glu-95 to Ala-104,<br>Pro-113 to His-118,<br>Arg-124 to Gly-130,<br>Arg-146 to Asp-153,<br>Arg-159 to Arg-168. | H0585: 2 and H0650: 1.                     | 5p15.33        |                                   |
| HUJCT61 | 933920 | 6590 | 304 - 606 | 16342 |  | Pro-35 to Pro-40.   | H0265: 1, H0556: 1 and H0650: 1.           |                |                                   |
| HUJCV04 | 926175 | 6591 | 3 - 329   | 16343 |  | Arg-1 to Met-8.   | H0650: 1 and H0580: 1.                     |                |                                   |
| HUJDB08 | 957786 | 6592 | 579 - 773 | 16344 |  |   | H0650: 1, H0318: 1 and H0090: 1.           |                |                                   |
| HUJDI58 | 920851 | 6593 | 12 - 359  | 16345 |  |   | S0114: 1 and H0650: 1.                     |                |                                   |
| HUJAJ10 | 914330 | 6594 | 552 - 764 | 16346 |  | Ser-13 to Arg-20,<br>Glu-23 to His-28.  | H0656: 2, L0749: 2, H0657: 1 and H0264: 1. |                |                                   |
| HUJAP82 | 966685 | 6595 | 168 - 650 | 16347 |  | Cys-14 to His-23,<br>Arg-27 to Arg-45.  | H0656: 2 and H0318: 1.                     |                |                                   |
| HUJAS12 | 968953 | 6596 | 3 - 656   | 16348 |  | Ser-42 to Pro-47.   | H0656: 2 and H0486: 1.                     |                |                                   |
| HUJAV06 | 966816 | 6597 | 88 - 396  | 16349 |  | Gly-1 to Ser-9,<br>Arg-19 to Arg-28,<br>Ala-36 to Gly-43,<br>Ser-73 to Pro-78.  | H0656: 2, L0748: 1 and L0757: 1.           | 22q13.2-q13.31 | 188826, 250100,<br>250800, 250800 |
| HUJAV83 | 921559 | 6598 | 80 - 316  | 16350 |  |   | H0254: 2 and H0656: 1.                     |                |                                   |
| HUJCI06 | 933322 | 6599 | 115 - 354 | 16351 |  | Val-39 to Asn-44.   | H0656: 1 and S0053: 1.                     |                |                                   |
| HUJCI07 | 951824 | 6600 | 158 - 361 | 16352 |  |   | H0656: 2                                   |                |                                   |
| HUJCO12 | 969258 | 6601 | 3 - 53    | 16353 |  |   | H0656: 2                                   |                |                                   |
| HUJCP08 | 957715 | 6602 | 247 - 429 | 16354 |  |   | H0656: 2                                   |                |                                   |
| HUJQC03 | 915269 | 6603 | 1 - 585   | 16355 |  | Thr-40 to Lys-48,<br>Lys-53 to Glu-58,<br>Ser-74 to Ser-80,<br>Phe-82 to Leu-91,<br>Lys-141 to Asp-146,<br>Arg-161 to Asp-167,                          | H0656: 1, H0581: 1, H0591: 1 and H0521: 1. |                |                                   |

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| HUUCS49 | 965987 | 6604 | 86 - 502  | 16356 | Asp-177 to Lys-183.   | H0656: 2   |  |  |
| HUUDG08 | 957721 | 6605 | 148 - 267 | 16357 | Gln-9 to Thr-16,<br>Pro-36 to Glu-52.   | H0656: 1 and H0306: 1.   |  |  |
| HUUDJ10 | 961717 | 6606 | 420 - 524 | 16358 | Asn-18 to Gly-38.   | H0656: 2   |  |  |
| HUUDS10 | 961706 | 6607 | 89 - 238  | 16359 |   | H0650: 1 and H0656: 1.   |  |  |
| HWAEE23 | 675326 | 6608 | 497 - 706 | 16360 |   | H0265: 1, H0556: 1, S0114:<br>1, H0581: 1, L0532: 1,<br>L0758: 1 and L0599: 1. |  |  |
| HWAEE55 | 719194 | 6609 | 98 - 349  | 16361 | Asp-21 to Gly-26,<br>Leu-50 to Ser-57.  | H0370: 1 and H0581: 1.   |  |  |
| HWAEE90 | 778917 | 6610 | 87 - 287  | 16362 |   | H0581: 1 and S0053: 1.   |  |  |
| HWAFF27 | 721151 | 6611 | 2 - 313   | 16363 | Asp-28 to Thr-34.   | H0485: 1 and H0581: 1.   |  |  |
| HWAFF66 | 908541 | 6612 | 3 - 320   | 16364 | Arg-1 to Gly-11,<br>Ser-40 to Asp-46.   | AR089: 5, AR061: 2<br>H0583: 1, H0581: 1 and<br>H0083: 1.                      |  |  |
| HWAFF81 | 712203 | 6613 | 177 - 34  | 16365 | Lys-6 to Gly-13.  | H0581: 1 and H0457: 1.   |  |  |
| HWAAL31 | 697716 | 6614 | 2 - 550   | 16366 | Gly-8 to Trp-13,<br>Pro-34 to Thr-46,<br>Glu-66 to Pro-79,<br>Ala-85 to Ala-100,<br>Gln-102 to Glu-120,<br>Glu-143 to Gln-156,<br>Ser-168 to Ser-177. | H0581: 1 and H0457: 1.   |  |  |
| HWAAM04 | 614973 | 6615 | 131 - 295 | 16367 |   | H0265: 1 and H0581: 1.   |  |  |
| HWAAM23 | 675712 | 6616 | 136 - 384 | 16368 |   | H0635: 1, H0581: 1, L0545:<br>1, L0748: 1 and L0591: 1.                        |  |  |
| HWAAR36 | 915621 | 6617 | 195 - 353 | 16369 | Phe-44 to Gln-53.   | H0581: 2 and S0116: 1.   |  |  |
| HWAAW74 | 935602 | 6618 | 2 - 127   | 16370 | Gln-1 to Gln-7.   | H0402: 1 and H0581: 1.   |  |  |
| HWAAY03 | 923734 | 6619 | 176 - 373 | 16371 |   | H0581: 1 and H0423: 1.   |  |  |
| HWABA49 | 859878 | 6620 | 83 - 382  | 16372 | Leu-72 to Phe-79.   | H0069: 1 and H0581: 1.   |  |  |
| HWABB37 | 870088 | 6621 | 2 - 382   | 16373 | Gly-8 to Ala-18,<br>Thr-92 to Thr-100.  | H0581: 1 and H0521: 1.   |  |  |
| HWABE67 | 751418 | 6622 | 1 - 150   | 16374 |   | H0581: 2   |  |  |
| HWABE94 | 838096 | 6623 | 406 - 182 | 16375 | Val-22 to Gly-36,<br>Pro-48 to His-53.  | H0581: 2   |  |  |

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| HWABF91 | 698131 | 6624 | 64 - 231  | 16376 | Ser-2 to Gly-9.   | H0581: 1 and H0422: 1.   |  |
| HWABI18 | 529803 | 6625 | 38 - 211  | 16377 |   | S0114: 1, H0581: 1, H0264: 1 and S0053: 1.   |  |
| HWABQ57 | 734536 | 6626 | 3 - 125   | 16378 | Arg-15 to Tyr-21, Pro-30 to Gln-41.                       | H0581: 2   |  |
| HWABS04 | 494837 | 6627 | 15 - 206  | 16379 |   | H0581: 2, H0625: 1, S0428: 1, H0436: 1 and H0423: 1.   |  |
| HWABS51 | 719221 | 6628 | 3 - 209   | 16380 |   | S0116: 1 and H0581: 1.   |  |
| HWABT82 | 784211 | 6629 | 1 - 117   | 16381 | Phe-13 to Cys-18.   | H0581: 2   |  |
| HWABW02 | 919441 | 6630 | 3 - 212   | 16382 |   | H0581: 1 and S0052: 1.   |  |
| HWABW15 | 659944 | 6631 | 561 - 830 | 16383 |   | H0581: 1 and H0444: 1.   |  |
| HWABW34 | 703861 | 6632 | 120 - 290 | 16384 | Lys-15 to Pro-20.   | H0581: 1 and H0487: 1.   |  |
| HWABW78 | 865145 | 6633 | 74 - 265  | 16385 | Arg-11 to Cys-16.   | H0581: 1 and S0142: 1.   |  |
| HWABX49 | 685187 | 6634 | 103 - 345 | 16386 | Ser-14 to Lys-31, Pro-41 to Glu-55, Lys-63 to Glu-72.     | H0581: 1 and H0522: 1.   |  |
| HWABX68 | 752825 | 6635 | 119 - 262 | 16387 | Leu-1 to Val-14.  | S0114: 1 and H0581: 1.   |  |
| HWABY12 | 968857 | 6636 | 281 - 577 | 16388 | Asn-8 to Thr-16, Ser-28 to Phe-34, Thr-76 to Gly-85.      | H0581: 1 and H0445: 1.   |  |
| HWACA38 | 943074 | 6637 | 2 - 577   | 16389 | Asp-81 to Ile-89, Asn-112 to Ser-125, Leu-179 to Ser-189. | AR054: 255, AR050: 206, AR051: 141, H0271: 18, H0556: 9, H0265: 8, H0581: 8, L0761: 4, H0543: 4, H0422: 4, H0656: 3, H0457: 3, L0766: 3, T0002: 2, L0748: 2, H0220: 1, H0650: 1, S0282: 1, H0610: 1, H0069: 1, H0635: 1, H0179: 1, H0416: 1, H0031: 1, H0090: 1, T0041: 1, H0560: 1, H0529: 1, L0667: 1, L0649: 1, L0803: 1, L0659: 1, L0666: 1, S0052: 1, S0216: 1, H0702: 1, H0518: 1, H0521: 1. |  |

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| HWACB75 | 685247 | 6638 | 273 - 461  | 16390 | Ile-22 to Asn-32,<br>Gly-36 to Asp-49.  | 1, L0750: 1, H0445: 1,<br>H0423: 1, H0677: 1 and<br>H0506: 1. |  |  |
| HWACG21 | 868530 | 6639 | 216 - 1    | 16391 |   | S0114: 1 and H0581: 1.  |  |  |
| HWACG64 | 675517 | 6640 | 192 - 356  | 16392 | Arg-38 to Ser-47.   | H0581: 2  |  |  |
| HWACG68 | 752710 | 6641 | 163 - 351  | 16393 | Arg-41 to Gly-48.   | H0581: 2 and L0697: 1.  |  |  |
| HWACG94 | 670912 | 6642 | 185 - 322  | 16394 |   | H0581: 2  |  |  |
| HWACH33 | 686740 | 6643 | 76 - 264   | 16395 |   | S0114: 1, H0581: 1 and<br>H0543: 1.                           |  |  |
| HWACH49 | 722572 | 6644 | 128 - 349  | 16396 | Pro-8 to Ser-14,<br>Ser-55 to Lys-60.   | H0581: 1 and S0052: 1.  |  |  |
| HWACK78 | 753565 | 6645 | 31 - 222   | 16397 | Lys-37 to Ala-43.   | H0581: 2  |  |  |
| HWACM17 | 662307 | 6646 | 2 - 148    | 16398 |   | S0114: 1 and H0581: 1.  |  |  |
| HWACP03 | 869938 | 6647 | 3 - 320    | 16399 |   | H0581: 1 and H0422: 1.  |  |  |
| HWACQ19 | 668093 | 6648 | 193 - 528  | 16400 |   | H0581: 1 and H0264: 1.  |  |  |
| HWACR28 | 685983 | 6649 | 212 - 403  | 16401 |   | H0581: 2  |  |  |
| HWACR77 | 771777 | 6650 | 1 - 117    | 16402 |   | H0581: 3 and H0580: 1.  |  |  |
| HWACU96 | 787349 | 6651 | 116 - 259  | 16403 |   | H0581: 2  |  |  |
| HWACV04 | 927275 | 6652 | 177 - 85   | 16404 | Thr-9 to Leu-15.  | H0581: 2 and H0436: 1.  |  |  |
| HWACX82 | 705560 | 6653 | 61 - 186   | 16405 |   | H0581: 1 and S0052: 1.  |  |  |
| HWADA93 | 647703 | 6654 | 236 - 493  | 16406 |   | H0581: 1 and L0748: 1.  |  |  |
| HWAD38  | 709487 | 6655 | 327 - 446  | 16407 |   | 1, L0438: 1 and L0748: 1.                                     |  |  |
| HWADF26 | 957347 | 6656 | 1099 - 506 | 16408 | Ala-45 to Asp-53,<br>Asn-57 to Asp-68,<br>Glu-84 to Cys-92,<br>Asn-97 to Ser-105. | H0581: 1 and H0421: 1.  |  |  |
| HWADG01 | 915567 | 6657 | 120 - 350  | 16409 | Asn-25 to Gly-30.   | AR050: 78, AR054: 61,<br>AR051: 60, AR061: 2,<br>AR089: 1     |  |  |
| HWADG26 | 680182 | 6658 | 226 - 423  | 16410 |   | H0581: 2, S0114: 1 and<br>L0362: 1.                           |  |  |
| HWADG27 | 958200 | 6659 | 300 - 605  | 16411 | Gly-20 to Asp-26.   | S0114: 1 and H0581: 1.  |  |  |
| HWADI32 | 698651 | 6660 | 154 - 369  | 16412 |   | S0218: 1 and H0581: 1.  |  |  |
| HWADI53 | 727820 | 6661 | 41 - 298   | 16413 | Ala-1 to Tyr-8,   | H0581: 2  |  |  |

|         |        |      |           |       |  |                                     |   |  |
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| HWADJ29 | 690074 | 6662 | 109 - 285 | 16414 | Asp-33 to Ser-38.  | H0402: 1.                           |   |  |
| HWADL02 | 918986 | 6663 | 48 - 143  | 16415 | Phe-12 to Thr-17.  | H0581: 1 and H0444: 1.              |   |  |
| HWADL36 | 706697 | 6664 | 38 - 292  | 16416 | Pro-11 to Ile-16,<br>Ile-40 to Cys-51,<br>Gly-62 to Tyr-67.  | H0581: 2<br>H0581: 1 and H0521: 1.  |   |  |
| HWADM30 | 868520 | 6665 | 97 - 297  | 16417 | Ser-2 to Pro-8,<br>Phe-16 to Cys-22.   | S0114: 1 and H0581: 1.              |   |  |
| HWADN19 | 657528 | 6666 | 297 - 109 | 16418 | Leu-33 to Lys-50.  | H0457: 2 and H0581: 1.              |   |  |
| HWADN21 | 670274 | 6667 | 203 - 418 | 16419 | Cys-1 to Arg-6.  | H0250: 1 and H0581: 1.              |   |  |
| HWADN46 | 924888 | 6668 | 264 - 572 | 16420 |  | H0271: 2 and H0581: 1.              |   |  |
| HWADO54 | 729136 | 6669 | 253 - 393 | 16421 |  | H0581: 2 and H0264: 1.              |   |  |
| HWADP26 | 680211 | 6670 | 3 - 635   | 16422 | Pro-20 to Gln-25,<br>Ser-31 to Cys-36,<br>Leu-39 to Ser-52,<br>Val-64 to Ser-73,<br>Ala-89 to Glu-98,<br>Ser-100 to Glu-109,<br>Val-113 to Gln-119,<br>Lys-146 to Pro-151. | S0114: 1 and H0581: 1.              |   |  |
| HWADQ27 | 682448 | 6671 | 444 - 584 | 16423 |  | H0318: 1 and H0581: 1.              |   |  |
| HWADQ91 | 693834 | 6672 | 212 - 358 | 16424 |  | H0581: 2                            |   |  |
| HWADR47 | 944042 | 6673 | 109 - 252 | 16425 | Leu-1 to Trp-6.  | S0212: 1 and H0581: 1.              | 4 |  |
| HWADS43 | 675454 | 6674 | 12 - 185  | 16426 | Tyr-18 to Cys-27.  | H0581: 2, L0790: 1 and<br>S0428: 1. |   |  |
| HWADS53 | 717544 | 6675 | 1 - 105   | 16427 | Asp-17 to Asn-23.  | H0581: 2, L0805: 1 and<br>H0521: 1. |   |  |
| HWADV51 | 916669 | 6676 | 3 - 326   | 16428 |  | H0581: 1 and H0436: 1.              |   |  |
| HWADV82 | 708688 | 6677 | 251 - 382 | 16429 |  | H0581: 1 and H0271: 1.              |   |  |
| HWADW41 | 722343 | 6678 | 2 - 334   | 16430 | Gly-35 to Thr-40.  | H0581: 1, L0743: 1 and<br>H0543: 1. |   |  |
| HWADX46 | 718647 | 6679 | 337 - 570 | 16431 | Glu-1 to Pro-9,<br>Pro-37 to Lys-42.   | H0265: 1 and H0581: 1.              |   |  |
| HWADX62 | 868509 | 6680 | 218 - 424 | 16432 | Glu-6 to Ser-14,<br>Thr-39 to Gln-45.  | H0581: 2 and H0583: 1.              |   |  |
| HWADY59 | 738874 | 6681 | 2 - 262   | 16433 | Thr-5 to Lys-17.   | H0581: 1, H0063: 1, H0436:          |   |  |

|          |        |      |           |       |  |  |  |  |                           |
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|          |        |      |           |       |  |  |  |  | L, H0444; 1 and L0599: 1. |
| HWADZ21  | 670270 | 6682 | 2 - 166   | 16434 | Ser-1 to Asn-10.   | H0581: 1 and S0142: 1.   |  |  |                           |
| HWADZ84  | 782682 | 6683 | 2 - 97    | 16435 |  | H0581: 2   |  |  |                           |
| HWAEA55  | 731094 | 6684 | 28 - 240  | 16436 | Ala-1 to Leu-6.  | S0218: 1 and H0581: 1.   |  |  |                           |
| HWAEA60  | 964384 | 6685 | 224 - 403 | 16437 | Leu-6 to Gln-15.   | H0581: 1 and H0445: 1.   |  |  |                           |
| HWAEB19  | 750811 | 6686 | 2 - 154   | 16438 |  | S0114: 1 and H0581: 1.   |  |  |                           |
| HWAEB94  | 778009 | 6687 | 2 - 184   | 16439 | Lys-46 to Glu-60.  | H0581: 1 and H0457: 1.   |  |  |                           |
| HWAECS75 | 852921 | 6688 | 506 - 709 | 16440 | His-5 to Arg-13,<br>Leu-18 to Leu-23.  | H0581: 3, H0318: 2, L0766:<br>2, L0438: 2, L0439: 2,<br>L0758: 2, H0485: 1, L0451:<br>1, L0542: 1, L0745: 1 and<br>H0543: 1. |  |  |                           |
| HWAEG01  | 915064 | 6689 | 70 - 168  | 16441 |  | H0581: 1 and H0444: 1.   |  |  |                           |
| HWAEGK82 | 868489 | 6690 | 263 - 463 | 16442 |  | H0581: 2 and H0543: 2.   |  |  |                           |
| HWAEN20  | 868490 | 6691 | 119 - 472 | 16443 |  | H0580: 1, H0581: 1 and<br>L0748: 1.  |  |  |                           |
| HWAFD32  | 850048 | 6692 | 43 - 279  | 16444 | Leu-1 to Pro-6,<br>Pro-13 to Glu-18,<br>Gly-51 to Gly-62,<br>Arg-71 to Tyr-79. | H0402: 1 and H0581: 1.   |  |  |                           |
| HWAFG08  | 958173 | 6693 | 3 - 149   | 16445 | Asn-23 to His-35.  | S0114: 1, H0402: 1 and<br>H0581: 1.  |  |  |                           |
| HWAFR09  | 973926 | 6694 | 156 - 341 | 16446 |  | H0581: 1 and H0090: 1.   |  |  |                           |
| HWAFI03  | 922832 | 6695 | 288 - 413 | 16447 |  | S0134: 1 and H0581: 1.   |  |  |                           |
| HWAFW34  | 926801 | 6696 | 6 - 179   | 16448 | Ser-8 to Val-16,<br>Ser-43 to Cys-49.  | H0581: 2   |  |  |                           |
| HWAFW39  | 947915 | 6697 | 188 - 370 | 16449 |  | AR089: 2, AR061: 1<br>H0255: 1 and H0581: 1.   |  |  |                           |
| HWAFX39  | 907631 | 6698 | 1 - 369   | 16450 | Asn-36 to Arg-48,<br>His-107 to Tyr-112.                                       | H0581: 1 and H0543: 1.   |  |  |                           |
| HWAFY24  | 868427 | 6699 | 113 - 361 | 16451 |  | H0581: 2   |  |  |                           |
| HWAFZ13  | 873396 | 6700 | 74 - 415  | 16452 | Ser-35 to Arg-48,<br>Leu-79 to Asn-88.   | H0635: 2, H0581: 1 and<br>H0521: 1.  |  |  |                           |
| HWAFZ82  | 868426 | 6701 | 52 - 288  | 16453 | Gly-12 to His-17.  | H0581: 2   |  |  |                           |
| HWAGC76  | 941311 | 6702 | 52 - 399  | 16454 | Pro-21 to Ala-27,<br>Ala-49 to Ala-56  | S0278: 8, S0344: 5, L0740:<br>3 H0250: 2 H0581: 2  |  |  |                           |

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|---------|--------|------|------------|-------|--|--|--|--|--|
|         |        |      |            |       |  |  | H0457: 2, S0142: 2, L0774: 2, L0749: 2, S0116: 1, H0031: 1, H0063: 1, S0144: 1, S0002: 1, L0800: 1, L0744: 1, L0777: 1 and H0653: 1. |  |  |
| HWAGD11 | 965895 | 6703 | 3 - 530    | 16455 |  |  | Pro-38 to Lys-44, Arg-64 to Gln-79, Pro-129 to Gly-139, Arg-145 to Pro-151, Pro-154 to Arg-159.                                      |  | H0581: 1 and H0542: 1.   |
| HWAGD58 | 869383 | 6704 | 3 - 224    | 16456 |  |  | Lys-39 to Pro-47.  |  | H0556: 1, H0581: 1 and L0776: 1.                                 |
| HWAGE40 | 926279 | 6705 | 2 - 262    | 16457 |  |  | Pro-31 to Phe-36, Gln-39 to Gln-45.  |  | H0250: 2 and H0581: 1.   |
| HWAGG79 | 930876 | 6706 | 32 - 286   | 16458 |  |  | Glu-30 to Leu-48, Cys-53 to Ser-60.  |  | H0581: 1 and H0543: 1.   |
| HWAGJ49 | 838759 | 6707 | 357 - 536  | 16459 |  |  |  |  | H0581: 2   |
| HWAGK95 | 868403 | 6708 | 238 - 441  | 16460 |  |  |  |  | H0581: 2 and H0264: 1.   |
| HWAGL53 | 842011 | 6709 | 180 - 422  | 16461 |  |  | Gly-37 to Leu-42.  |  | H0581: 1 and H0457: 1.   |
| HWAGM33 | 888685 | 6710 | 526 - 1140 | 16462 |  |  | Ser-68 to Val-74, Pro-87 to Arg-97, Cys-153 to Trp-164, Arg-172 to Cys-178.  |  | AR089: 1, AR061: 0<br>H0305: 1, H0581: 1, L0745: 1 and L0747: 1. |
| HWAGX37 | 959586 | 6711 | 390 - 662  | 16463 |  |  | Gly-29 to Ser-35.  |  | H0457: 3, H0581: 1 and H0445: 1.                                 |
| HWAGY05 | 931001 | 6712 | 127 - 369  | 16464 |  |  |  |  | H0264: 2, H0556: 1, H0581: 1 and H0444: 1.                       |
| HWAGZ22 | 868523 | 6713 | 70 - 378   | 16465 |  |  | Pro-33 to Phe-41, Phe-52 to Cys-58, Pro-88 to Cys-93.  |  | H0581: 2, H0224: 1 and H0160: 1.                                 |
| HWAH110 | 960646 | 6714 | 1344 - 280 | 16466 |  |  |  |  | H0581: 1 and T0041: 1.   |
| HWAH594 | 909667 | 6715 | 1 - 471    | 16467 |  |  | Pro-52 to Ser-60, Ala-92 to Gly-102.   |  | H0581: 2, H0341: 1, H0521: 1, H0543: 1 and S0452: 1.             |
| HWAI02  | 918215 | 6716 | 428 - 607  | 16468 |  |  |  |  | H0581: 2   |
| HWBAB43 | 715110 | 6717 | 3 - 341    | 16469 |  |  | Ile-2 to Asp-8.  |  | H0580: 1 and H0521: 1.   |

|         |        |      |           |       |   |   |         |   |
|---------|--------|------|-----------|-------|---|---|---------|---|
| HWBAB69 | 582109 | 6718 | 2 - 388   | 16470 | Asp-36 to Glu-44,<br>Arg-62 to Leu-67,<br>Arg-74 to Ala-80,<br>Pro-100 to Gly-106.<br>Ser-1 to Thr-16,<br>Lys-27 to Glu-32,<br>Ala-34 to Gly-40,<br>Ala-79 to Gly-88. | H0580: 2, L0748: 1 and<br>S0308: 1.           | 19q13.3 | 113900, 126340,<br>126391, 130410,<br>134790, 138570,<br>160900, 173850,<br>258501, 600040,<br>602225, 602225 |
| HWBAC22 | 823086 | 6719 | 932 - 657 | 16471 | Met-36 to Tyr-44.   | H0580: 1 and H0457: 1.                        |         |   |
| HWBAL44 | 959449 | 6720 | 566 - 3   | 16472 | Pro-27 to Thr-32,<br>Pro-42 to Trp-48,<br>Asp-109 to Arg-115,<br>Phe-126 to Asp-136,<br>Thr-145 to Lys-151.   | H0580: 2, S0002: 2 and<br>L0779: 2.           |         |   |
| HWBAN54 | 729329 | 6721 | 77 - 217  | 16473 | Glu-16 to Phe-23,<br>Leu-35 to Lys-42.  | H0580: 1 and H0444: 1.                        |         |   |
| HWBAQ16 | 868363 | 6722 | 767 - 925 | 16474 |   | H0445: 2, H0580: 1, L0761:<br>1 and L0697: 1. |         |   |
| HWBAR44 | 715963 | 6723 | 2 - 187   | 16475 | Ala-47 to Asp-52.   | H0580: 2 and L0747: 2.                        |         |   |
| HWBAR90 | 788700 | 6724 | 427 - 561 | 16476 | Ser-1 to Lys-6.   | H0580: 1 and H0416: 1.                        |         |   |
| HWBAS92 | 960197 | 6725 | 321 - 575 | 16477 | Asn-1 to His-10,<br>Ala-40 to Ile-45.   | H0305: 2, H0580: 1 and<br>L0518: 1.           |         |   |
| HWBAX06 | 935032 | 6726 | 1 - 117   | 16478 | Gly-9 to Gly-21.  | H0580: 1 and H0486: 1.                        |         |   |
| HWBAX39 | 630220 | 6727 | 282 - 467 | 16479 | Asp-1 to Cys-6.   | H0580: 2                                      |         |   |
| HWBAZ51 | 707033 | 6728 | 246 - 413 | 16480 | Arg-10 to Ser-15,<br>Lys-34 to Pro-41.  | H0580: 1 and H0264: 1.                        |         |   |
| HWBBA64 | 927809 | 6729 | 120 - 371 | 16481 | Leu-40 to Lys-45.   | H0580: 1 and H0264: 1.                        |         |   |
| HWBBA83 | 775401 | 6730 | 365 - 571 | 16482 | Gly-22 to Gly-40,<br>Pro-47 to Asn-54.  | H0402: 1 and H0580: 1.                        |         |   |
| HWBBB48 | 559708 | 6731 | 32 - 250  | 16483 | Gly-13 to Trp-18,<br>Ile-29 to Thr-35,<br>Ala-42 to Ala-52.   | H0580: 2                                      |         |   |
| HWBBE01 | 851029 | 6732 | 107 - 361 | 16484 |   | H0580: 1 and H0457: 1.                        |         |   |
| HWBBF31 | 868359 | 6733 | 3 - 230   | 16485 |   | H0580: 1 and H0551: 1.                        |         |   |



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| HWBBI20 | 669491 | 6734 | 34 - 243  | 16486 | Met-1 to Glu-18.  | H0580: 2   |           |
| HWBBI54 | 971547 | 6735 | 45 - 200  | 16487 | Glu-38 to Lys-45.   | H0580: 1 and H0128: 1.   |           |
| HWBBL78 | 723183 | 6736 | 294 - 500 | 16488 | Glu-57 to Glu-64.   | L0748: 2, H0580: 1, L0171: 1, L0662: 1, S0052: 1 and H0522: 1. |           |
| HWBBM28 | 686259 | 6737 | 177 - 374 | 16489 |   | S0116: 1 and H0580: 1.   | 8q24-qter |
| HWBBO46 | 718858 | 6738 | 428 - 571 | 16490 |   | H0580: 1, L0748: 1 and H0444: 1.                               |           |
| HWBBQ40 | 660971 | 6739 | 85 - 282  | 16491 |   | H0254: 1 and H0580: 1.   |           |
| HWBBQ86 | 656704 | 6740 | 10 - 228  | 16492 |   | S0298: 1 and H0580: 1.   |           |
| HWBBR65 | 747723 | 6741 | 32 - 232  | 16493 | Gly-1 to Ser-9.   | AR089: 28, AR061: 24<br>L0748: 2, H0580: 1 and H0421: 1.       |           |
| HWBBR78 | 663728 | 6742 | 148 - 354 | 16494 | Asn-30 to Gln-39.   | H0580: 1 and H0521: 1.   |           |
| HWBBV03 | 868346 | 6743 | 109 - 270 | 16495 |   | H0402: 1 and H0580: 1.   |           |
| HWBBV59 | 682344 | 6744 | 232 - 348 | 16496 | Trp-2 to Asp-11.  | H0580: 2   |           |
| HWBBV83 | 771349 | 6745 | 3 - 257   | 16497 |   | H0543: 2 and H0580: 1.   |           |
| HWBBW11 | 966665 | 6746 | 1 - 231   | 16498 | Leu-10 to Ser-15,<br>Gly-59 to Gly-66,<br>Arg-72 to Cys-77.   | H0402: 1, H0580: 1 and L0055: 1.                               |           |
| HWBBX08 | 860880 | 6747 | 209 - 580 | 16499 |   | H0580: 1 and H0271: 1.   |           |
| HWBBY01 | 916036 | 6748 | 218 - 436 | 16500 | Leu-33 to Ile-40.   | L0766: 2, S0134: 1, H0580: 1, L0060: 1 and L0747: 1.           |           |
| HWBBY74 | 711633 | 6749 | 239 - 397 | 16501 | Ser-10 to Pro-21.   | H0580: 1 and H0087: 1.   |           |
| HWBCA14 | 768667 | 6750 | 231 - 368 | 16502 |   | H0580: 1 and S0002: 1.   |           |
| HWBCA22 | 674236 | 6751 | 209 - 472 | 16503 | Lys-47 to Ser-54.   | H0580: 2   |           |
| HWBCA92 | 712731 | 6752 | 320 - 442 | 16504 | Lys-1 to Leu-7.   | H0580: 1 and H0179: 1.   |           |
| HWBCC85 | 784189 | 6753 | 188 - 316 | 16505 | His-1 to Lys-21.  | H0580: 2   |           |
| HWBCC90 | 744828 | 6754 | 67 - 210  | 16506 |   | H0580: 2   |           |
| HWBCF85 | 738552 | 6755 | 155 - 277 | 16507 |   | H0580: 1 and H0318: 1.   |           |
| HWBCG35 | 707803 | 6756 | 3 - 299   | 16508 | Gly-1 to Ser-12,<br>Leu-19 to Arg-26,<br>Pro-40 to Arg-46,<br>Asp-52 to Asn-61,<br>Arg-65 to Lys-71,<br>Lys-76 to Gly-84. | H0580: 1 and H0090: 1.   |           |

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|---------|--------|------|------------|-------|---|--|--|
| HWBCG45 | 527679 | 6757 | 13 - 177   | 16509 | Pro-17 to Asn-31.   | H0305: 2, H0580: 1 and H0576: 1.   |  |
| HWBCI65 | 868326 | 6758 | 267 - 106  | 16510 | Pro-18 to Lys-41.   | H0580: 2   |  |
| HWBCN09 | 868325 | 6759 | 141 - 347  | 16511 |   | H0580: 1 and H0635: 1.   |  |
| HWBCN55 | 715064 | 6760 | 63 - 326   | 16512 | Arg-25 to Asn-32.   | H0580: 1 and H0581: 1.   |  |
| HWBCQ10 | 964233 | 6761 | 195 - 377  | 16513 | Tyr-45 to Lys-51.   | H0580: 1, H0581: 1 and L0529: 1.   |  |
| HWBCQ29 | 943720 | 6762 | 9 - 251    | 16514 | Pro-14 to Met-22, Lys-25 to Ile-31, Ala-55 to His-65, Thr-74 to Lys-81. | AR089: 1, AR061: 1<br>H0580: 1, H0416: 1 and H0521: 1.   |  |
| HWBCS21 | 960025 | 6763 | 148 - 513  | 16515 | Pro-1 to Lys-12, Pro-30 to Gln-35.                                      | S0114: 1 and H0580: 1.   |  |
| HWBCS66 | 765986 | 6764 | 545 - 727  | 16516 | Asp-10 to Gly-18.   | H0186: 1 and H0580: 1.   |  |
| HWBCU82 | 955858 | 6765 | 176 - 382  | 16517 | His-11 to Pro-19.   | H0271: 2 and H0580: 1.   |  |
| HWBCW04 | 925649 | 6766 | 302 - 541  | 16518 |   | H0580: 1 and H0445: 1.   |  |
| HWBCW88 | 882592 | 6767 | 283 - 636  | 16519 | Lys-21 to Pro-44, Ser-61 to Arg-67, Asn-70 to His-75.                   | L0731: 5, L0779: 3, L0777: 2, H0580: 1, S0344: 1, L0768: 1, L0751: 1, L0745: 1, L0747: 1 and L0759: 1. |  |
| HWBCW90 | 731395 | 6768 | 142 - 282  | 16520 | Ser-5 to Asn-10.  | H0580: 3   |  |
| HWBCY30 | 828318 | 6769 | 3 - 476    | 16521 | His-1 to Asp-20, Pro-52 to Phe-57, Gly-64 to Glu-75.                    | H0580: 1, H0090: 1, L0662: 1, L0766: 1, L0776: 1, L0792: 1, L0740: 1, L0777: 1 and L0752: 1.           |  |
| HWBDL50 | 724145 | 6770 | 301 - 513  | 16522 |   | H0580: 1, H0581: 1 and H0271: 1.   |  |
| HWBDM24 | 963498 | 6771 | 741 - 1040 | 16523 |   | H0521: 2, H0580: 1 and H0522: 1.   |  |
| HWBDP31 | 697705 | 6772 | 136 - 426  | 16524 | Asp-11 to Leu-16, Trp-35 to Leu-41, Arg-54 to Pro-60.                   | H0580: 2   |  |
| HWBDR66 | 750586 | 6773 | 370 - 522  | 16525 |   | H0580: 2   |  |
| HWBDS89 | 771950 | 6774 | 76 - 270   | 16526 | Thr-4 to Leu-29, Tyr-42 to Gly-48.                                      | H0580: 2   |  |
| HWBDT15 | 659939 | 6775 | 62 - 184   | 16527 |   | H0580: 1 and S0052: 1.   |  |

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|---------|--------|------|-----------|-------|--|--|---|-------|---|
| HWBDW71 | 597259 | 6776 | 313 - 438 | 16528 |  |  | H0580: 2  |       |   |
| HWBEA72 | 950702 | 6777 | 3 - 203   | 16529 |  |  | H0580: 2  |       |   |
| HWBEI17 | 924913 | 6778 | 3 - 182   | 16530 |  |  | S0116: 1 and H0580: 1.  |       |   |
| HWBEI53 | 968493 | 6779 | 26 - 118  | 16531 |  |  | H0580: 1 and H0271: 1.  |       |   |
| HWBEL53 | 727617 | 6780 | 123 - 287 | 16532 |  |  | H0580: 2  |       |   |
| HWBEL70 | 735390 | 6781 | 169 - 456 | 16533 |  | Asp-1 to Gly-6.                        | H0580: 2  |       |   |
| HWBEL85 | 954600 | 6782 | 46 - 204  | 16534 |  |  | H0580: 2 and H0179: 1.  |       |   |
| HWBEV44 | 716215 | 6783 | 43 - 195  | 16535 |  | Asn-10 to Gln-15,<br>Glu-31 to Phe-37. | H0580: 2 and L0740: 1.  |       |   |
| HWBEV94 | 788574 | 6784 | 166 - 2   | 16536 |  | Gly-2 to Pro-12,<br>Gly-48 to Met-54.  | H0580: 2  |       |   |
| HWBEX27 | 682583 | 6785 | 1 - 489   | 16537 |  | Leu-5 to His-12.                       | AR089: 1, AR061: 0<br>H0580: 2, L0663: 2, L0662:<br>1, L0657: 1, L0659: 1,<br>L0666: 1, L0438: 1, L0748: 1<br>and L0777: 1. | 15q15 | 177070, 177070,<br>182500, 218000,<br>227220, 243500,<br>600839, 601800 |
| HWBEY38 | 709497 | 6786 | 226 - 366 | 16538 |  |  | H0580: 1 and H0069: 1.  |       |   |
| HWBEZ47 | 719940 | 6787 | 2 - 160   | 16539 |  |  | H0580: 2  |       |   |
| HWBEZ69 | 664699 | 6788 | 127 - 345 | 16540 |  |  | H0580: 1, H0264: 1 and<br>H0625: 1.   |       |   |
| HWBEZ90 | 923008 | 6789 | 181 - 336 | 16541 |  | Asn-9 to Cys-14.                       | H0580: 2, L0775: 2 and<br>H0521: 2.   |       |   |
| HWBEZ94 | 856472 | 6790 | 188 - 340 | 16542 |  |  | H0580: 1, L0521: 1 and<br>H0445: 1.   |       |   |
| HWBFE76 | 769769 | 6791 | 310 - 420 | 16543 |  | Tyr-1 to Lys-6,<br>Gly-20 to Trp-33.   | H0580: 2  |       |   |
| HWBFG09 | 625162 | 6792 | 1 - 195   | 16544 |  | Pro-13 to Gly-20.                      | H0580: 2  |       |   |
| HWBFL35 | 722921 | 6793 | 173 - 328 | 16545 |  | Arg-8 to Arg-22,<br>Asp-28 to Lys-34.  | H0580: 2  |       |   |
| HWBFL96 | 708955 | 6794 | 155 - 406 | 16546 |  | Gln-15 to Glu-22.                      | H0580: 2  |       |   |
| HWBFM58 | 735701 | 6795 | 1 - 162   | 16547 |  |  | H0580: 2  |       |   |
| HWBFM78 | 773289 | 6796 | 117 - 365 | 16548 |  | Ser-17 to Gly-29,<br>Arg-35 to Ala-42. | H0580: 2  |       |   |
| HWBFN30 | 691611 | 6797 | 188 - 3   | 16549 |  | Ser-4 to Lys-9.                        | H0580: 2  |       |   |
| HWBFY69 | 754729 | 6798 | 135 - 257 | 16550 |  |  | H0580: 2  |       |   |

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| HWBFY88 | 701904 | 6799 | 1 - 111   | 16551 |   |  | H0580: 2   |       |  |
| HWBGB08 | 958611 | 6800 | 1 - 84    | 16552 | Thr-16 to Glu-21.   |  | H0580: 1 and H0522: 1.   |       |  |
| HWBGB47 | 948714 | 6801 | 2 - 124   | 16553 |   |  | H0580: 2   |       |  |
| HWBGD16 | 924830 | 6802 | 102 - 302 | 16554 |   |  | H0580: 1 and H0477: 1.   | 10q26 | 176943, 176943,<br>176943, 176943,<br>176943, 258870,<br>263700, 601969,<br>601969, 602084 |
| HWBGF15 | 659687 | 6803 | 17 - 220  | 16555 |   |  | H0265: 1 and H0580: 1.   |       |  |
| HWBGI01 | 915603 | 6804 | 23 - 178  | 16556 |   |  | H0580: 1 and H0370: 1.   |       |  |
| HWBGI13 | 656308 | 6805 | 55 - 276  | 16557 | Ser-25 to Ser-30.   |  | H0580: 2   |       |  |
| HWBGI30 | 691511 | 6806 | 105 - 266 | 16558 |   |  | H0580: 2   |       |  |
| HWWAZ06 | 933736 | 6807 | 1 - 213   | 16559 |   |  | H0318: 3, S0134: 1, S0218: 1,<br>H0657: 1 and L0758: 1.                            |       |  |
| HWWDI03 | 922463 | 6808 | 113 - 301 | 16560 | Val-7 to Leu-22,<br>Cys-26 to Met-34,<br>Gly-57 to Ser-63.  |  | H0657: 2, H0255: 1 and<br>H0318: 1.  |       |  |
| HWWEF06 | 933697 | 6809 | 3 - 128   | 16561 | Gln-24 to Ile-30.   |  | H0657: 2, L0770: 1, L0774: 1,<br>L0666: 1, L0439: 1 and<br>L0777: 1.               |       |  |
| HWWEN10 | 961741 | 6810 | 122 - 436 | 16562 | Pro-9 to Ile-14.  |  | H0657: 2, L0532: 1 and<br>L0666: 1.  |       |  |
| HWWEP56 | 951811 | 6811 | 157 - 426 | 16563 |   |  | H0657: 2, L0779: 2, L0766: 1<br>and L0655: 1.                                      |       |  |
| HWWFA12 | 968958 | 6812 | 151 - 285 | 16564 | Lys-8 to Gly-19,<br>Gly-37 to Arg-45.                       |  | H0657: 1, H0318: 1 and<br>H0445: 1.  |       |  |
| HWWFK07 | 951819 | 6813 | 39 - 503  | 16565 | Val-42 to Leu-56.   |  | H0657: 3 and H0521: 1.   |       |  |
| HWWFU42 | 961739 | 6814 | 44 - 247  | 16566 | Pro-17 to His-23.   |  | H0657: 2   |       |  |
| HYAAB66 | 463413 | 6815 | 62 - 325  | 16567 |   |  | H0583: 1 and H0422: 1.   |       |  |
| HYAAC60 | 731763 | 6816 | 349 - 552 | 16568 | Leu-22 to Gln-29,<br>Phe-31 to Ala-37.                      |  | S0218: 1 and H0583: 1.   |       |  |
| HYAAD03 | 923797 | 6817 | 229 - 336 | 16569 |   |  | H0583: 2   |       |  |
| HYAAD67 | 664597 | 6818 | 67 - 180  | 16570 |   |  | H0583: 2 and S0052: 1.   |       |  |
| HYAAD95 | 920280 | 6819 | 299 - 625 | 16571 | Lys-14 to Tyr-31,<br>Pro-39 to Phe-45,<br>Trp-86 to Ala-92. |  | H0318: 7, H0445: 7, L0748: 6,<br>L0766: 4, H0657: 3,<br>L0751: 3, H0423: 3, H0583: |       |  |

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|         |        |      |           |       |   |  |  | 2, H0477: 2, L0761: 2,<br>L0794: 2, L0758: 2, L0599:<br>2, S0114: 1, L0785: 1,<br>H0254: 1, H0402: 1, H0486:<br>1, H0575: 1, H0421: 1,<br>H0264: 1, H0059: 1, L0767:<br>1, L0768: 1 and L0655: 1. |  |  |  |
| HYAAF33 | 915050 | 6820 | 136 - 396 | 16572 | Ser-50 to Thr-58,<br>Thr-64 to Gly-72.  |  |  | H0583: 1, L0766: 1 and<br>H0522: 1.   |  |  |  |
| HYAAH26 | 681251 | 6821 | 99 - 224  | 16573 | Asn-19 to Tyr-28.   |  |  | H0583: 1 and H0318: 1.  |  |  |  |
| HYAAH36 | 947242 | 6822 | 47 - 241  | 16574 | Arg-44 to Cys-50.   |  |  | H0583: 2  |  |  |  |
| HYAAI55 | 674591 | 6823 | 19 - 141  | 16575 |   |  |  | L0748: 2, S0114: 1 and<br>H0583: 1.   |  |  |  |
| HYAAI67 | 706512 | 6824 | 233 - 3   | 16576 | His-2 to Trp-7,<br>Glu-37 to Asn-43.  |  |  | H0583: 1 and H0305: 1.  |  |  |  |
| HYAAJ36 | 744792 | 6825 | 1 - 414   | 16577 | Ala-1 to Gly-6.   |  |  | H0583: 1, H0521: 1, L0779:<br>1 and L0758: 1.   |  |  |  |
| HYAAJ89 | 678728 | 6826 | 137 - 283 | 16578 |   |  |  | H0583: 1 and H0179: 1.  |  |  |  |
| HYAAN31 | 697590 | 6827 | 2 - 181   | 16579 | Gly-20 to Trp-33.   |  |  | H0583: 2  |  |  |  |
| HYAAO39 | 599000 | 6828 | 242 - 412 | 16580 |   |  |  | H0583: 1 and S0002: 1.  |  |  |  |
| HYAAR17 | 662426 | 6829 | 2 - 223   | 16581 |   |  |  | H0583: 2  |  |  |  |
| HYAAR95 | 862585 | 6830 | 252 - 536 | 16582 | Ile-20 to Lys-25.   |  |  | H0583: 1, S0002: 1, L0766:<br>1 and H0423: 1.   |  |  |  |
| HYAAS08 | 926017 | 6831 | 1 - 312   | 16583 | Arg-1 to Phe-18,<br>Pro-38 to Phe-43.   |  |  | H0583: 1 and H0341: 1.  |  |  |  |
| HYAAT50 | 724047 | 6832 | 42 - 413  | 16584 | Ile-3 to Ala-11,<br>Arg-25 to Leu-32,<br>Ser-40 to Cys-47,<br>Leu-101 to Lys-111. |  |  | S0134: 1 and H0583: 1.  |  |  |  |
| HYAAU42 | 890595 | 6833 | 2 - 424   | 16585 | Ser-37 to His-43,<br>Val-45 to Trp-60,<br>Lys-106 to Ser-113.                     |  |  | H0583: 1, L0539: 1 and<br>H0271: 1.   |  |  |  |
| HYAAU88 | 786666 | 6834 | 125 - 430 | 16586 | His-1 to Glu-8,<br>Asp-14 to Cys-21.  |  |  | S0218: 1, H0583: 1 and<br>S0216: 1.   |  |  |  |
| HYAAX05 | 934878 | 6835 | 23 - 190  | 16587 |   |  |  | H0583: 2  |  |  |  |
| HYAAX17 | 662439 | 6836 | 3 - 140   | 16588 |   |  |  | H0583: 2  |  |  |  |

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| HYAAX65 | 630213 | 6837 | 2 - 217   | 16589 | Gly-1 to Trp-13.   | H0583: 2   |  |  |
| HYAAY36 | 766694 | 6838 | 110 - 412 | 16590 | Pro-1 to His-11,<br>Ser-52 to Ala-60.                      | H0556: 6, S0144: 5, H0255: 22q13.1<br>4, L0766: 4, L0757: 4,<br>H0650: 3, S0278: 3, H0486:<br>3, S0344: 3, S0426: 3, L0655:<br>3, L0747: 3, L0749: 3,<br>H0543: 3, S0134: 2, L0785:<br>2, H0069: 2, H0318: 2,<br>H0179: 2, L0748: 2, L0756:<br>2, T0002: 1, H0583: 1,<br>S0116: 1, H0402: 1, H0638:<br>1, S0358: 1, S0140: 1,<br>H0025: 1, H0575: 1, H0581:<br>1, H0510: 1, H0271: 1,<br>H0063: 1, H0087: 1, L0381:<br>1, L0378: 1, L0657: 1,<br>L0659: 1, L0542: 1, L0383:<br>1, H0521: 1, H0436: 1,<br>S0027: 1, L0744: 1, L0779:<br>1, L0731: 1, H0445: 1,<br>L0601: 1, H0422: 1 and<br>H0677: 1. | 103050, 103050,<br>124030, 124030,<br>138981, 182380,<br>188826, 190040,<br>190040, 190040 |  |
| HYABB23 | 675659 | 6839 | 302 - 448 | 16591 |  | L0754: 3, L0803: 2, L0517: 2q12<br>2, L0362: 2, H0583: 1,<br>L0773: 1, L0662: 1, H0521: 1<br>and L0780: 1.   | 129490, 167415,<br>176947  |  |
| HYABB40 | 799572 | 6840 | 288 - 545 | 16592 | Phe-20 to Ser-29.  | L0766: 2, L0747: 2, L0779:<br>2, L0777: 2, L0755: 2,<br>H0583: 1, S0116: 1, L0800:<br>1, L0644: 1, L0626: 1,<br>L0375: 1, L0776: 1, L0792:<br>1, L0663: 1, L0748: 1,<br>L0758: 1, L0593: 1 and<br>H0423: 1.  |  |  |
| HYABB96 | 692653 | 6841 | 3 - 170   | 16593 | Ser-1 to Cys-14,<br>Arg-20 to Lys-31,<br>Leu-34 to Thr-46. | H0583: 1 and H0521: 1.   | 8  |  |

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| HYABC02 | 919212 | 6842 | 3 - 179   | 16594 | Tyr-1 to Thr-10,<br>Thr-15 to Cys-21,<br>Glu-29 to Trp-34.  | H0583: 2  |  |  |
| HYABC58 | 924677 | 6843 | 92 - 202  | 16595 | Asn-1 to Tyr-9.   | H0583: 1 and H0063: 1.  |  |  |
| HYABE67 | 822985 | 6844 | 94 - 315  | 16596 | Arg-11 to His-21,<br>Tyr-46 to Gly-54.  | H0583: 3 and L0754: 1.  |  |  |
| HYABE85 | 697593 | 6845 | 447 - 635 | 16597 |   | H0583: 2, L0764: 1 and<br>L0439: 1.   |  |  |
| HYABG22 | 811950 | 6846 | 3 - 146   | 16598 |   | H0583: 2  |  |  |
| HYABL55 | 678864 | 6847 | 2 - 418   | 16599 | Thr-12 to Thr-28,<br>Glu-30 to Ala-36,<br>Gly-40 to Arg-48,<br>Ala-61 to Trp-75,<br>Arg-94 to Gln-101,<br>Thr-112 to Asp-117. | H0583: 1 and S0052: 1.  |  |  |
| HYABP53 | 971448 | 6848 | 26 - 637  | 16600 | His-1 to Gly-12,<br>His-33 to Gly-44,<br>Thr-124 to Gly-137,<br>Thr-153 to Thr-158,<br>Arg-188 to Gly-193.                    | AR054: 47, AR051: 42,<br>AR050: 39, AR089: 1,<br>AR061: 1<br>H0583: 1 and H0656: 1. |  |  |
| HYABV14 | 956236 | 6849 | 121 - 588 | 16601 | His-1 to Trp-12,<br>Arg-40 to Ala-45,<br>Pro-50 to His-60,<br>Asn-70 to Arg-76.   | H0521: 4, L0766: 3, H0583:<br>1, H0581: 1, H0522: 1 and<br>H0543: 1.                |  |  |
| HYACG89 | 724923 | 6850 | 231 - 512 | 16602 |   | S0114: 1, L0002: 1 and<br>H0583: 1.   |  |  |
| HYACI15 | 674268 | 6851 | 149 - 277 | 16603 | Ser-21 to Gly-26.   | H0583: 1 and H0576: 1.  |  |  |
| HYACI18 | 665720 | 6852 | 122 - 292 | 16604 | His-25 to Lys-32.   | H0583: 1, S0002: 1 and<br>L0748: 1.   |  |  |
| HYACI64 | 929756 | 6853 | 299 - 523 | 16605 | Ser-28 to Pro-33.   | H0583: 1 and H0423: 1.  |  |  |
| HYACI95 | 746317 | 6854 | 3 - 284   | 16606 | Gly-1 to His-10,<br>Pro-13 to Arg-21,<br>His-39 to Cys-53,<br>Ser-79 to Lys-92.   | H0583: 2  |  |  |
| HYACI53 | 727948 | 6855 | 214 - 375 | 16607 | Gln-1 to Ser-6.   | L0748: 4 and H0583: 1.  |  |  |
| HYACF71 | 760102 | 6856 | 275 - 565 | 16608 | Pro-27 to Arg-38.   | L0439: 2 and H0583: 1.  |  |  |

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| HYACE11 | 966482 | 6857 | 74 - 229  | 16609 | Gly-1 to Gly-7,<br>Gln-36 to Leu-45.                           | H0583: 1 and L0517: 1.   |  |  |
| HYACD06 | 974495 | 6858 | 145 - 384 | 16610 | Leu-10 to Tyr-28,<br>Arg-39 to Lys-44.                         | H0583: 1   |  |  |
| HYACC03 | 923525 | 6859 | 199 - 462 | 16611 | Pro-24 to Ser-29,<br>Ser-45 to Glu-50.                         | H0583: 1 and L0589: 1.   |  |  |
| HYABB43 | 800006 | 6860 | 368 - 21  | 16612 | Lys-16 to Arg-21,<br>Ser-44 to Arg-52.                         | AR050: 136, AR054: 109,<br>AR051: 95, AR089: 1,<br>AR061: 1<br>L0805: 2, H0583: 1, L0764:<br>1, L0375: 1, L0776: 1,<br>L0740: 1, L0731: 1 and<br>L0759: 1. |  |  |
| HYAAY57 | 734463 | 6861 | 347 - 430 | 16613 |  | H0583: 1 and L0439: 1.   |  |  |
| HYAAV45 | 717479 | 6862 | 360 - 542 | 16614 | Ala-18 to Glu-26.  | H0583: 1 and L0749: 1.   |  |  |
| HYAAU65 | 909956 | 6863 | 2 - 580   | 16615 | Gln-68 to Ser-78,<br>Thr-93 to Ser-101,<br>Pro-119 to Ala-130. | AR089: 2, AR061: 1<br>L0748: 2 and H0583: 1.   |  |  |
| HYAAT55 | 731420 | 6864 | 3 - 233   | 16616 |  | H0583: 1 and L0748: 1.   |  |  |
| HYAAT39 | 929758 | 6865 | 392 - 186 | 16617 |  | L0754: 2 and H0583: 1.   |  |  |
| HYAAN84 | 782838 | 6866 | 164 - 364 | 16618 | Ser-30 to Arg-39.  | H0583: 1, L0759: 1 and<br>L0589: 1.  |  |  |
| HYAAL49 | 973089 | 6867 | 115 - 300 | 16619 | Val-13 to Gln-19,<br>His-35 to Gly-42.                         | H0583: 1   |  |  |
| HYAAL41 | 887395 | 6868 | 3 - 257   | 16620 |  | AR050: 73, AR054: 55,<br>AR051: 52<br>H0583: 1   |  |  |
| HYAAL19 | 668338 | 6869 | 517 - 738 | 16621 | Met-15 to Asn-21,<br>Ser-36 to Ser-41.                         | L0439: 4, L0756: 2, L0594:<br>2, H0583: 1, L0766: 1,<br>L0438: 1, L0779: 1 and<br>L0758: 1.  |  |  |
| HYAAK77 | 887044 | 6870 | 212 - 727 | 16622 |  | AR054: 69, AR050: 62,<br>AR051: 57<br>H0583: 1 and L0745: 1.   |  |  |
| HYAAK74 | 765252 | 6871 | 1 - 177   | 16623 | Cys-1 to Arg-12.   | H0583: 1, L0748: 1 and<br>L0749: 1.  |  |  |



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| HYAAJ03 | 923526 | 6872 | 148 - 279 | 16624 | Glu-26 to Cys-31.   | H0583: 1 and L0777: 1.                      |              |
| HYAAF78 | 773433 | 6873 | 1 - 219   | 16625 | Arg-17 to Asn-23,<br>Ser-43 to Ile-48.                          | H0583: 1, L0748: 1 and<br>L0754: 1.         |              |
| HYAAD24 | 677019 | 6874 | 2 - 157   | 16626 |   | H0583: 1 and L0748: 1.                      |              |
| HYAAC24 | 677010 | 6875 | 186 - 389 | 16627 | Glu-21 to Tyr-31,<br>Lys-58 to Lys-64.                          | H0583: 1 and L0362: 1.                      |              |
| HYAAB40 | 841969 | 6876 | 268 - 510 | 16628 | Ile-15 to Ser-20.   | H0583: 1 and L0717: 1.                      |              |
| HWWEW11 | 965434 | 6877 | 298 - 471 | 16629 | Gly-1 to Gly-29.  | H0657: 1 and L0664: 1.                      |              |
| HWWEI11 | 965426 | 6878 | 204 - 374 | 16630 | Ser-1 to Leu-8.   | H0657: 1 and L0367: 1.                      |              |
| HWWEC06 | 933690 | 6879 | 85 - 234  | 16631 | Ser-33 to Gly-43.   | L0766: 2, H0657: 1 and<br>L0749: 1.         |              |
| HWBGG82 | 779081 | 6880 | 377 - 538 | 16632 |   | H0580: 1, L0745: 1 and<br>L0600: 1.         |              |
| HWBGF04 | 927284 | 6881 | 1 - 489   | 16633 |   | H0580: 1 and L0750: 1.                      |              |
| HWBFY46 | 800638 | 6882 | 1 - 270   | 16634 | Arg-5 to Arg-14.  | AR054: 2, AR050: 2,<br>AR051: 1<br>H0580: 1 |              |
| HWBEG18 | 909798 | 6883 | 55 - 696  | 16635 | Trp-46 to Lys-51,<br>Pro-109 to Asn-123,<br>Phe-156 to Gly-165. | AR089: 82, AR061: 18<br>H0580: 1            |              |
| HWBEF69 | 754328 | 6884 | 324 - 229 | 16636 |   | H0580: 1 and L0748: 1.                      |              |
| HWBEE25 | 677660 | 6885 | 534 - 316 | 16637 |   | H0580: 1 and L0742: 1.                      |              |
| HWBEA06 | 934820 | 6886 | 31 - 237  | 16638 | Gln-26 to Ser-31,<br>Pro-34 to Gln-40.                          | H0580: 1 and L0766: 1.                      |              |
| HWBDU71 | 835888 | 6887 | 418 - 531 | 16639 |   | H0580: 1 and L0523: 1.                      |              |
| HWBDU58 | 735774 | 6888 | 490 - 257 | 16640 | Ser-18 to Asn-23,<br>Thr-30 to Thr-41,<br>Pro-63 to Arg-75.     | L0439: 3 and H0580: 1.                      |              |
| HWBDS59 | 743462 | 6889 | 274 - 447 | 16641 | Pro-11 to Thr-20.   | L0749: 2, H0580: 1 and<br>L0747: 1.         | 22q11.2-qter |
| HWBDS12 | 971872 | 6890 | 3 - 200   | 16642 | Ile-17 to Glu-37.   | H0580: 1, L0775: 1 and<br>L0755: 1.         |              |
| HWBDR82 | 779002 | 6891 | 153 - 437 | 16643 | Phe-1 to Arg-13,<br>Ser-21 to Gln-32.                           | H0580: 1 and L0748: 1.                      |              |
| HWBDQ58 | 735769 | 6892 | 553 - 744 | 16644 |   | L0748: 2 and H0580: 1.                      |              |
| HWBDL82 | 728805 | 6893 | 26 - 355  | 16645 | Pro-64 to Ile-75.   | L0439: 2 and H0580: 1.                      |              |

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|         |        |      |           |       |  |  | Glu-77 to Asp-88,<br>Leu-101 to Gly-110.  |  |  |   |  |
| HWBDK08 | 958956 | 6894 | 247 - 369 | 16646 |  |  | Pro-15 to Gly-22.   |  |  | H0580: 1, L0665: 1 and<br>L0599: 1.                       |  |
| HWBCV48 | 721010 | 6895 | 136 - 408 | 16647 |  |  | Gly-7 to Ser-13,<br>Pro-36 to Phe-46.   |  |  | H0580: 1 and L0766: 1.                                    |  |
| HWBCU06 | 935028 | 6896 | 240 - 464 | 16648 |  |  | Glu-1 to Pro-11.  |  |  | H0580: 1 and L0143: 1.                                    |  |
| HWBCS08 | 909031 | 6897 | 2 - 562   | 16649 |  |  | Cys-1 to Arg-6,<br>Asp-18 to Ser-30,<br>Cys-37 to Ser-42,<br>Arg-64 to Lys-69,<br>Arg-74 to Val-79,<br>Asp-109 to Asp-115,<br>Val-161 to Lys-166. |  |  | AR089: 4, AR061: 1<br>H0580: 1, L0809: 1 and<br>L0604: 1. |  |
| HWBCH41 | 868342 | 6898 | 175 - 363 | 16650 |  |  |   |  |  | H0580: 1, L0766: 1 and<br>L0748: 1.                       |  |
| HWBCD20 | 669472 | 6899 | 143 - 418 | 16651 |  |  | Arg-3 to Ser-17,<br>Pro-33 to Ala-41.   |  |  | H0580: 1 and L0439: 1.                                    |  |
| HWBCA08 | 958957 | 6900 | 1 - 222   | 16652 |  |  | Cys-3 to Ser-10.  |  |  | L0619: 1 and H0580: 1.                                    |  |
| HWBBY86 | 637734 | 6901 | 198 - 503 | 16653 |  |  | Ser-8 to Gly-13,<br>Pro-33 to Ser-39,<br>Asn-96 to Gln-102.   |  |  | AR051: 12, AR054: 7,<br>AR050: 3<br>H0580: 1              |  |
|         | 785151 | 9611 | 362 - 3   | 19363 |  |  | Ser-8 to Gly-13,<br>Pro-33 to Ser-39,<br>Asn-96 to Lys-101.   |  |  |   |  |
| HWBBV52 | 726509 | 6902 | 78 - 218  | 16654 |  |  | Leu-9 to Met-17.  |  |  | H0580: 1, L0740: 1 and<br>L0599: 1.                       |  |
| HWBBU10 | 964237 | 6903 | 8 - 298   | 16655 |  |  | Pro-24 to Cys-42,<br>Arg-66 to Pro-71.  |  |  | L0004: 1, H0580: 1 and<br>L0606: 1.                       |  |
| HWBBT71 | 760176 | 6904 | 247 - 381 | 16656 |  |  | His-2 to Gly-8.   |  |  | H0580: 1 and L0756: 1.                                    |  |
| HWBBR45 | 887686 | 6905 | 75 - 239  | 16657 |  |  | Leu-4 to Asp-15.  |  |  | AR054: 240, AR050: 238,<br>AR051: 165<br>H0580: 1         |  |
|         |        |      |           |       |  |  |   |  |  |   |  |
| HWBBQ22 | 861613 | 6906 | 2 - 214   | 16658 |  |  | Tyr-17 to Cys-22.   |  |  | H0580: 1 and L0766: 1.                                    |  |
| HWBBN86 | 785313 | 6907 | 385 - 528 | 16659 |  |  |   |  |  | L0748: 3 and H0580: 1.                                    |  |
| HWBBM02 | 919423 | 6908 | 3 - 116   | 16660 |  |  |   |  |  | H0580: 1 and L0376: 1.                                    |  |

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|---------|--------|------|-------------|-------|---|--|---|--|--|
| HWBBL57 | 868349 | 6909 | 204 - 428   | 16661 |   |  | H0580: 1 and L0763: 1.  |  |  |
| HWBBL03 | 923691 | 6910 | 50 - 217    | 16662 | Asn-32 to Thr-39,<br>Gly-46 to Phe-56.                      |  | H0580: 1, L0369: 1 and<br>L0517: 1.   |  |  |
| HWBBF60 | 740125 | 6911 | 3 - 257     | 16663 |   |  | H0580: 1 and L0754: 1.  |  |  |
| HWBBE52 | 868338 | 6912 | 150 - 365   | 16664 | Arg-19 to Asn-33,<br>Leu-52 to Trp-66.                      |  | AR054: 7, AR051: 4,<br>AR050: 2<br>L0748: 2, H0580: 1, L0772:<br>1, L0771: 1, L0774: 1,<br>L0776: 1 and L0758: 1. |  |  |
| HWBBD23 | 675360 | 6913 | 1 - 276     | 16665 | Arg-1 to Gly-8.   |  | H0580: 1 and L0602: 1.  |  |  |
| HWBAX77 | 771958 | 6914 | 126 - 521   | 16666 | Gly-7 to Leu-12,<br>Ser-60 to Cys-66.                       |  | H0580: 1 and L0754: 1.  |  |  |
| HWBAT83 | 780976 | 6915 | 1 - 426     | 16667 |   |  | H0580: 1 and L0745: 1.  |  |  |
| HWBAS96 | 796126 | 6916 | 1 - 186     | 16668 | Ser-18 to Thr-23.   |  | H0580: 1 and L0748: 1.  |  |  |
| HWBAR29 | 690422 | 6917 | 51 - 302    | 16669 | Lys-15 to Ala-23,<br>Ala-26 to Leu-34,<br>Gly-46 to Cys-56. |  | H0580: 1 and L0740: 1.  |  |  |
| HWBAQ71 | 944080 | 6918 | 3 - 470     | 16670 | Thr-1 to Ala-11,<br>Thr-24 to Arg-29.                       |  | AR089: 3, AR061: 1<br>H0580: 1 and L0601: 1.  |  |  |
| HWBAQ02 | 919351 | 6919 | 102 - 311   | 16671 | Cys-5 to Gln-13,<br>Asn-24 to Arg-29.                       |  | L0779: 2 and H0580: 1.  |  |  |
| HWBAO50 | 724135 | 6920 | 202 - 402   | 16672 | Leu-39 to Thr-44.   |  | L0766: 2 and H0580: 1.  |  |  |
| HWBAO38 | 709490 | 6921 | 195 - 368   | 16673 |   |  | L0748: 2 and H0580: 1.  |  |  |
| HWBAK65 | 747731 | 6922 | 277 - 140   | 16674 | Thr-12 to Gly-19.   |  | L0439: 3 and H0580: 1.  |  |  |
| HWBAJ13 | 975117 | 6923 | 1649 - 1440 | 16675 |   |  | AR061: 2, AR089: 2<br>H0580: 1  |  |  |
| HWBAH72 | 766073 | 6924 | 227 - 469   | 16676 |   |  | L0439: 2 and H0580: 1.  |  |  |
| HWBAH16 | 661664 | 6925 | 3 - 269     | 16677 | Gln-9 to Asn-14.  |  | H0580: 1, L0748: 1 and<br>L0749: 1.   |  |  |
| HWBAF43 | 715111 | 6926 | 329 - 550   | 16678 | Ser-27 to Arg-33,<br>Thr-61 to Pro-67.                      |  | H0580: 1 and L0748: 1.  |  |  |
| HWBAF09 | 625401 | 6927 | 108 - 278   | 16679 |   |  | H0580: 1 and L0766: 1.  |  |  |
| HWBAC02 | 919559 | 6928 | 1 - 135     | 16680 | Gln-6 to Asp-21.  |  | H0580: 1 and L0731: 1.  |  |  |
| HWAGV04 | 926759 | 6929 | 69 - 371    | 16681 | Gly-3 to Cys-10,<br>Leu-29 to His-34.                       |  | H0581: 1 and L0589: 1.  |  |  |
| HWAGQ02 | 953013 | 6930 | 550 - 185   | 16682 | Cys-31 to Tyr-37.   |  | L0766: 3, L0748: 2, L0785:  |  |  |

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|-----------|--------|------|-----------|-------|--|--|--|--|---|--|--|
|           |        |      |           |       |  |  | Lys-90 to Ser-99,<br>Ser-102 to His-109,<br>Gln-112 to Trp-121.                                      |  | 1, H0581: 1, L0763: 1,<br>L0774: 1, L0775: 1, L0375:<br>1, L0806: 1, L0776: 1,<br>L0749: 1, L0779: 1, L0752:<br>1, L0758: 1 and L0599: 1. |  |  |
| HWAGO42   | 958373 | 6931 | 1 - 489   | 16683 |  |  | Pro-24 to Val-31.  |  | H0581: 1 and L0800: 1.  |  |  |
| HWAFAQ10  | 961339 | 6932 | 733 - 930 | 16684 |  |  |  |  | L0766: 2 and H0581: 1.  |  |  |
| HWAFAFM60 | 868436 | 6933 | 1 - 315   | 16685 |  |  | Asp-7 to Asn-17,<br>Arg-40 to His-47,<br>Pro-80 to Cys-91.   |  | H0581: 1 and L0766: 1.  |  |  |
| HWAFAFG12 | 969605 | 6934 | 70 - 417  | 16686 |  |  | Ala-1 to Gly-10,<br>Arg-33 to Thr-39,<br>Phe-41 to Gly-50,<br>Asp-59 to Gly-66,<br>Arg-73 to Ser-80. |  | H0581: 1 and L0655: 1.  |  |  |
| HWAFAFE87 | 949950 | 6935 | 121 - 420 | 16687 |  |  | Gly-7 to Asp-12,<br>Glu-31 to Ser-43,<br>Val-76 to Ser-86.   |  | AR089: 1, AR061: 1<br>H0581: 1  |  |  |
| HWAFAFD56 | 868452 | 6936 | 98 - 217  | 16688 |  |  | Asp-8 to Cys-15.   |  | H0581: 1 and L0758: 1.  |  |  |
| HWAFAFD10 | 963323 | 6937 | 3 - 131   | 16689 |  |  |  |  | H0581: 1 and L0662: 1.  |  |  |
| HWAFAFA47 | 948858 | 6938 | 110 - 358 | 16690 |  |  | Ser-16 to Ile-22.  |  | AR089: 4, AR061: 1<br>H0581: 1  |  |  |
| HWAFAFA05 | 930990 | 6939 | 290 - 544 | 16691 |  |  | Gln-1 to Arg-11,<br>Pro-33 to Arg-41,<br>Thr-46 to Gly-52,<br>Arg-54 to Cys-75.                      |  | L0751: 2, H0581: 1, L0794:<br>1 and L0752: 1.   |  |  |
| HWAFAEZ81 | 868460 | 6940 | 496 - 257 | 16692 |  |  | Gln-1 to Lys-8.  |  | H0581: 1  |  |  |
| HWAFAEZ19 | 874351 | 6941 | 121 - 519 | 16693 |  |  | Ser-1 to Ile-7,<br>Phe-27 to Lys-44.   |  | H0581: 1  |  |  |
| HWAFAEU35 | 887166 | 6942 | 1 - 474   | 16694 |  |  | Arg-22 to Arg-36.  |  | AR051: 268, AR054: 153,<br>AR050: 68, AR089: 54,<br>AR061: 9<br>H0581: 1  |  |  |
| HWAFAER10 | 838763 | 6943 | 102 - 275 | 16695 |  |  | Glu-52 to Lys-58.  |  | H0581: 1 and L0766: 1.  |  |  |
| HWAFAEP25 | 951965 | 6944 | 2 - 793   | 16696 |  |  | Asn-11 to His-19,<br>Gly-31 to Val-37.   |  | H0581: 1 and L0593: 1.  |  |  |

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|----------|--------|------|-----------|-------|--|---|--|---|--|
|          |        |      |           |       |  | Thr-65 to Ser-74,<br>Lys-177 to Thr-182,<br>Gly-187 to Asp-199. |  |   |  |
| HWA EK27 | 868494 | 6945 | 357 - 578 | 16697 |  | Asn-1 to Lys-6,<br>Gly-18 to Glu-28,<br>Ser-53 to Thr-58.       |  | H0581: 1 and L0589: 1.  |  |
| HWA EG71 | 931547 | 6946 | 2 - 553   | 16698 |  | Gln-60 to Ala-68,<br>Trp-132 to Ser-138,<br>Lys-156 to Val-163. |  | AR089: 6, AR061: 1<br>L0740: 2 and H0581: 1.  |  |
| HWA EC08 | 958115 | 6947 | 3 - 716   | 16699 |  | Leu-32 to Pro-38,<br>Leu-124 to Ala-135.                        |  | AR061: 0, AR089: 0<br>H0581: 1, L0803: 1, L0664:<br>1, L0439: 1 and L0751: 1.               |  |
| HWADQ35  | 868526 | 6948 | 824 - 630 | 16700 |  |   |  | L0759: 4, H0581: 1, L0055:<br>1, L0773: 1 and L0777: 1.                                     |  |
| HWADO27  | 682458 | 6949 | 222 - 380 | 16701 |  | Lys-45 to Ser-53.   |  | H0581: 1, L0748: 1 and<br>L0754: 1.   |  |
| HWADN42  | 713272 | 6950 | 188 - 391 | 16702 |  | Ser-10 to Gln-18.   |  | H0581: 1, L0661: 1 and<br>L0750: 1.   |  |
| HWADM84  | 782685 | 6951 | 209 - 373 | 16703 |  |   |  | H0581: 1 and L0439: 1.  |  |
| HWADI46  | 891149 | 6952 | 2 - 265   | 16704 |  | Gly-31 to Lys-43.   |  | AR050: 65, AR054: 52,<br>AR051: 41<br>H0581: 1  |  |
| HWADE25  | 677594 | 6953 | 314 - 427 | 16705 |  |   |  | L0748: 2 and H0581: 1.  |  |
| HWADD18  | 665173 | 6954 | 83 - 349  | 16706 |  |   |  | L0794: 2, L0665: 2, H0581:<br>1, L0438: 1, L0439: 1,<br>L0749: 1, L0757: 1 and<br>L0758: 1. |  |
| HWACZ56  | 733002 | 6955 | 3 - 326   | 16707 |  |   |  | H0581: 1 and L0596: 1.  |  |
| HWACY70  | 756888 | 6956 | 190 - 552 | 16708 |  | Glu-1 to Lys-31,<br>Ser-56 to Arg-61.                           |  | AR089: 6, AR061: 2<br>H0581: 1 and L0608: 1.  |  |
| HWACS69  | 774914 | 6957 | 391 - 552 | 16709 |  |   |  | H0581: 1 and L0731: 1.  |  |
| HWACQ54  | 729166 | 6958 | 80 - 208  | 16710 |  |   |  | H0581: 1 and L0745: 1.  |  |
| HWACI56  | 733013 | 6959 | 205 - 414 | 16711 |  | Pro-16 to Ile-23.   |  | H0581: 1 and L0748: 1.  |  |
| HWACI46  | 718711 | 6960 | 383 - 538 | 16712 |  |   |  | H0581: 1, L0748: 1 and<br>L0581: 1.   |  |
| HWACH03  | 923374 | 6961 | 177 - 350 | 16713 |  | Gly-41 to Ser-46.   |  | H0581: 1, L0748: 1 and  |  |

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|----------|--------|------|-----------|-------|--|--|--|--|---|---------|---|--|
|          |        |      |           |       |  |  |  |  | L0749: 1.   |         |   |  |
| HWACD30  | 691565 | 6962 | 34 - 249  | 16714 | Pro-5 to Arg-19.   |  |  |  | L0747: 3 and H0581: 1.  |         |   |  |
| HWABY68  | 927387 | 6963 | 2 - 382   | 16715 |  |  |  |  | L0777: 2 and H0581: 1.  | 19q13.3 | 113900, 126340,<br>126391, 130410,<br>134790, 138570,<br>160900, 173850,<br>258501, 600040,<br>602225, 602225 |  |
| HWABV67  | 751409 | 6964 | 145 - 294 | 16716 |  |  |  |  | H0581: 1 and L0748: 1.  |         |   |  |
| HWABV34  | 868535 | 6965 | 107 - 280 | 16717 |  |  |  |  | H0581: 1 and L0747: 1.  |         |   |  |
| HWABP20  | 669486 | 6966 | 160 - 384 | 16718 | Lys-21 to Arg-27,<br>Ala-29 to Ala-35.   |  |  |  | L0748: 2 and H0581: 1.  |         |   |  |
| HWABP19  | 951277 | 6967 | 33 - 254  | 16719 |  |  |  |  | H0581: 1 and L0764: 1.  |         |   |  |
| HWABP02  | 919442 | 6968 | 322 - 423 | 16720 |  |  |  |  | L0766: 2, H0581: 1 and<br>L0746: 1.                                       |         |   |  |
| HWABI13  | 656767 | 6969 | 360 - 602 | 16721 |  |  |  |  | L0766: 2 and H0581: 1.  |         |   |  |
| HWABH68  | 929275 | 6970 | 3 - 212   | 16722 |  |  |  |  | H0581: 1 and L0646: 1.  |         |   |  |
| HWABG11  | 949088 | 6971 | 1 - 486   | 16723 | Phe-13 to Ile-19.  |  |  |  | AR089: 8, AR061: 2<br>H0581: 1  |         |   |  |
| HWABD52  | 726510 | 6972 | 4 - 207   | 16724 |  |  |  |  | L0777: 2 and H0581: 1.  |         |   |  |
| HWAAAY79 | 791452 | 6973 | 45 - 329  | 16725 | Thr-32 to His-38,<br>Thr-46 to Asn-55.   |  |  |  | H0581: 1 and L0598: 1.  |         |   |  |
| HWAAAY51 | 973237 | 6974 | 48 - 185  | 16726 | Arg-18 to Asn-26.  |  |  |  | H0581: 1  |         |   |  |
| HWAAAX48 | 721442 | 6975 | 144 - 377 | 16727 | Pro-10 to Ser-22,<br>Gly-57 to Cys-62.   |  |  |  | H0581: 1, L0805: 1, L0776:<br>1, L0791: 1, L0663: 1 and<br>L0439: 1.      |         |   |  |
| HWAAW65  | 779578 | 6976 | 594 - 809 | 16728 | Gly-1 to Arg-14,<br>Leu-32 to Gly-37,<br>Pro-41 to Gly-46.                     |  |  |  | H0581: 1 and L0748: 1.  |         |   |  |
| HWAAQ76  | 887772 | 6977 | 3 - 590   | 16729 | His-3 to Ile-9,<br>Leu-13 to Leu-20,<br>Ala-47 to Ser-54,<br>Asn-86 to Pro-93. |  |  |  | AR050: 94, AR051: 77,<br>AR054: 68<br>L0758: 2, H0581: 1 and<br>L0779: 1. |         |   |  |
| HWAAAM30 | 691878 | 6978 | 106 - 336 | 16730 | Asn-36 to Glu-42,<br>Pro-53 to Asp-58.   |  |  |  | H0581: 1 and L0731: 1.  |         |   |  |
| HWAAAL70 | 757035 | 6979 | 3 - 443   | 16731 |  |  |  |  | H0581: 1 and L0741: 1.  |         |   |  |

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| HWAAI41  | 712141 | 6980 | 117 - 383 | 16732 | Arg-18 to Phe-32.  | H0581: 1 and L0748: 1.              |   |
| HWAAF60  | 751037 | 6981 | 2 - 226   | 16733 |  | H0581: 1 and L0759: 1.              |   |
| HWAAE31  | 841973 | 6982 | 105 - 248 | 16734 | Arg-1 to Phe-9,<br>Arg-23 to Gly-31.   | H0581: 1, L0766: 1 and<br>L0599: 1. |   |
| HWAAAB06 | 935131 | 6983 | 181 - 429 | 16735 | Ser-4 to Ala-12,<br>His-21 to Leu-27,<br>Pro-30 to Glu-35.   | L0452: 1 and H0581: 1.              |   |
| HUUDR34  | 944903 | 6984 | 2 - 658   | 16736 | Lys-6 to Met-14,<br>Lys-60 to Leu-65,<br>Asp-71 to Lys-76,<br>Arg-78 to Ser-88,<br>Pro-96 to His-101,<br>Glu-109 to Glu-123,<br>Thr-138 to Ala-144,<br>Arg-173 to Asp-180. | L0462: 2, H0656: 1 and<br>L0617: 1. | 103050, 103050,<br>124030, 124030,<br>138981, 182380,<br>188826, 190040,<br>190040, 190040                      |
| HUUCS12  | 969325 | 6985 | 403 - 687 | 16737 | Ser-6 to Pro-13.   | L0748: 3 and H0656: 1.              |   |
| HUUCJ02  | 940813 | 6986 | 594 - 121 | 16738 | Gly-11 to Ile-17,<br>Gln-57 to Gly-64.   | H0656: 1 and L0163: 1.              |   |
| HUJDJ03  | 922441 | 6987 | 189 - 578 | 16739 | Arg-54 to Ser-61,<br>Pro-79 to Ser-90.   | L0523: 2 and H0650: 1.              |   |
| HUJDE05  | 967231 | 6988 | 21 - 569  | 16740 | Lys-2 to Ile-11,<br>Asp-76 to Gly-83.  | H0650: 1 and L0758: 1.              | 5q31.1<br>131400, 147061,<br>147575, 147575,<br>147575, 153455,<br>159000, 181460,<br>600807, 601596,<br>602089 |
| HUJCN12  | 969331 | 6989 | 316 - 465 | 16741 |  | H0650: 1 and L0142: 1.              |   |
| HUJBQ04  | 926196 | 6990 | 1 - 120   | 16742 |  | H0650: 1                            |   |
| HUJBP01  | 914512 | 6991 | 1 - 330   | 16743 |  | H0650: 1                            |   |
| HTYSK94  | 501001 | 6992 | 19 - 285  | 16744 | Arg-28 to Gly-36,<br>Pro-73 to Tyr-80.   | H0116: 1                            |   |
| HTYSK65  | 500999 | 6993 | 126 - 338 | 16745 | His-45 to Tyr-50.  | H0116: 1                            |   |
| HTYSK23  | 575458 | 6994 | 112 - 258 | 16746 |  | H0116: 1                            |   |
| HTYND11  | 965061 | 6995 | 93 - 311  | 16747 |  | L0748: 1 and S0452: 1.              |   |
| HTYNC04  | 926906 | 6996 | 167 - 66  | 16748 | Leu-16 to Asn-31.  | L0021: 1, L0779: 1 and<br>S0452: 1. |   |

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|----------|--------|------|-----------|-------|---|--|----|--|
| HTYAA83  | 537277 | 6997 | 424 - 185 | 16749 | Ala-4 to Gly-13.  | H0058: 1   |    |  |
| HTXSV06  | 933377 | 6998 | 267 - 461 | 16750 | Gln-20 to Gln-26.   | H0556: 1 and L0367: 1.                               |    |  |
| HTXSH08  | 957886 | 6999 | 266 - 463 | 16751 |   | L0749: 4, L0748: 2, L0777: 2, H0556: 1 and L0471: 1. |    |  |
| HTXSC11  | 965536 | 7000 | 168 - 416 | 16752 | Lys-28 to Met-34, Glu-40 to Ile-45.                                       | H0556: 1   |    |  |
| HTXSA04  | 926338 | 7001 | 174 - 413 | 16753 |   | H0556: 1, L0783: 1 and L0809: 1.                     |    |  |
| HTXRS08  | 957919 | 7002 | 1 - 183   | 16754 | Pro-8 to Arg-19.  | H0556: 1 and L0366: 1.                               |    |  |
| HTXRA02  | 918089 | 7003 | 2 - 205   | 16755 | Pro-7 to Gly-17.  | H0556: 1, L0748: 1 and L0780: 1.                     |    |  |
| HTXQS11  | 965084 | 7004 | 1 - 447   | 16756 | Val-20 to Ser-37, Asp-110 to Arg-125.                                     | H0556: 1, L0643: 1 and L0749: 1.                     |    |  |
| HTXQO07  | 952064 | 7005 | 1 - 231   | 16757 |   | H0556: 1 and L0749: 1.                               |    |  |
| HTXQM71  | 869147 | 7006 | 192 - 425 | 16758 | Leu-50 to Ile-55.   | H0556: 1 and L0766: 1.                               |    |  |
| HTXQM07  | 952067 | 7007 | 311 - 445 | 16759 |   | H0556: 1 and L0805: 1.                               |    |  |
| HTXPX72  | 916162 | 7008 | 132 - 458 | 16760 |   | H0556: 1 and L0748: 1.                               |    |  |
| HTXPV03  | 922905 | 7009 | 416 - 664 | 16761 |   | H0556: 1 and L0745: 1.                               |    |  |
| HTXOR95  | 869249 | 7010 | 380 - 592 | 16762 |   | H0556: 1 and L0748: 1.                               |    |  |
| HTXOO15  | 869261 | 7011 | 55 - 273  | 16763 | Pro-49 to Thr-55.   | AR089: 1, AR061: 0                                   |    |  |
|          |        |      |           |       |   | H0556: 1 and L0752: 1.                               |    |  |
| HTXOO12  | 872368 | 7012 | 30 - 395  | 16764 |   | H0556: 1 and L0761: 1.                               | 12 |  |
| HTXOK51  | 869265 | 7013 | 147 - 527 | 16765 | Ser-76 to Gly-82, Gly-89 to Thr-97.                                       | L0362: 2 and H0556: 1.                               |    |  |
| HTXNJ60  | 869299 | 7014 | 354 - 677 | 16766 | Pro-42 to Arg-47.   | H0556: 1 and L0766: 1.                               |    |  |
| HTXNG04  | 926992 | 7015 | 48 - 557  | 16767 | Pro-20 to Ala-25, Lys-53 to Arg-63, Pro-80 to Gly-89, Ser-139 to Asp-156. | L0749: 5, L0748: 3 and H0556: 1.                     |    |  |
| HTXNF11  | 869300 | 7016 | 309 - 593 | 16768 |   | H0556: 1 and L0748: 1.                               |    |  |
| HTXNA19  | 953848 | 7017 | 562 - 792 | 16769 |   | H0556: 1 and L0439: 1.                               |    |  |
| HTXNMZ01 | 915250 | 7018 | 107 - 223 | 16770 |   | H0556: 1 and L0562: 1.                               |    |  |
| HTXMU37  | 948611 | 7019 | 1 - 204   | 16771 |   | L0748: 2 and H0556: 1.                               |    |  |
| HTXMR30  | 869312 | 7020 | 332 - 577 | 16772 |   | L0758: 2 and H0556: 1.                               |    |  |
| HTXMJ82  | 841875 | 7021 | 2 - 424   | 16773 | Arg-15 to Ser-22,   | H0556: 1 and L0596: 1.                               |    |  |



|          |        |      |           |       |  |  |  |  |         |   |   |
|----------|--------|------|-----------|-------|--|--|--|--|---------|---|---|
|          |        |      |           |       |  | Ala-30 to Leu-37,<br>Pro-44 to Lys-51,<br>Leu-53 to Arg-65,<br>Pro-123 to Trp-132. |  |  |         |   |   |
| HTXMC72  | 875290 | 7022 | 127 - 399 | 16774 |  |  |  |  |         | H0556: 1 and L0748: 1.  |   |
| HTXLS08  | 958357 | 7023 | 1 - 1152  | 16775 |  | Asp-1 to Gly-8,<br>Leu-14 to Ser-20.   |  |  |         | L0766: 9, L0761: 8, L0779:<br>3, L0809: 2, L0752: 2,<br>H0556: 1, L0772: 1, L0794: 1<br>and L0745: 1. |   |
| HTXLN70  | 756630 | 7024 | 409 - 663 | 16776 |  |  |  |  |         | H0556: 1 and L0748: 1.  |   |
| HTXLI10  | 963602 | 7025 | 235 - 471 | 16777 |  |  |  |  |         | H0556: 1 and L0794: 1.  |   |
| HTXKCP30 | 487401 | 7026 | 138 - 335 | 16778 |  |  |  |  |         | H0556: 1  |   |
|          | 494070 | 9612 | 164 - 3   | 19364 |  | Asp-13 to Phe-19,<br>Arg-46 to Leu-54.   |  |  |         |   |   |
| HTXKN65  | 869345 | 7027 | 71 - 241  | 16779 |  | Met-1 to Asn-8,<br>Gln-19 to Ser-24.   |  |  |         | H0556: 1 and L0369: 1.  |   |
| HTXKM37  | 869347 | 7028 | 24 - 236  | 16780 |  | Lys-8 to Pro-19.   |  |  |         | H0556: 1 and L0768: 1.  |   |
| HTXKM24  | 677101 | 7029 | 117 - 284 | 16781 |  | Lys-6 to Thr-11.   |  |  |         | H0556: 1 and L0748: 1.  |   |
| HTXKK96  | 796330 | 7030 | 321 - 515 | 16782 |  | Gly-51 to Pro-65.  |  |  |         | H0556: 1 and L0596: 1.  |   |
| HTXKK31  | 697838 | 7031 | 208 - 447 | 16783 |  | Ser-74 to Ile-80.  |  |  |         | H0556: 1 and L0756: 1.  |   |
| HTXKF02  | 919683 | 7032 | 3 - 251   | 16784 |  | Leu-2 to Ser-14,<br>Ser-26 to Ala-34,<br>Pro-43 to Gly-49.                         |  |  | 11p15.5 | H0556: 1, L0743: 1 and<br>L0744: 1.   | 125852, 126452,<br>126452, 141900,<br>141900, 141900,<br>141900, 141900,<br>141900, 142000,<br>142000, 142200,<br>142250, 142270,<br>176730, 176730,<br>176730, 190020,<br>191290, 192500,<br>192500, 194071,<br>194071, 204500,<br>600856, 601680,<br>602631, 602631 |
| HTXKC64  | 746471 | 7033 | 203 - 481 | 16785 |  | Ile-9 to Asn-18.   |  |  |         | H0556: 1 and L0748: 1.  |   |
| HTXJX77  | 870446 | 7034 | 94 - 606  | 16786 |  | Gln-25 to Thr-30,  |  |  |         | H0556: 1 and L0596: 1.  |   |

|         |        |      |           |       |  |  |  |  |
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| HTXJR61 | 741746 | 7035 | 941 - 693 | 16787 | Ser-45 to Lys-54.<br>Lys-1 to Leu-6.   | L0439: 3, H0556: 1 and<br>L0747: 1.                        |  |  |
| HTXJP17 | 663123 | 7036 | 77 - 334  | 16788 | Arg-24 to Gly-32,<br>Asp-48 to Ser-55,<br>Pro-58 to Glu-64,<br>Glu-69 to His-86.   | L0747: 3, L0758: 2, H0556:<br>1 and L0515: 1.              |  |  |
| HTXJO80 | 871594 | 7037 | 329 - 454 | 16789 |  | L0748: 2, H0556: 1, L0637:<br>1 and L0749: 1.              |  |  |
| HTXJO78 | 773508 | 7038 | 145 - 282 | 16790 | Leu-7 to Gly-18,<br>Trp-20 to Asn-29.  | H0556: 1 and L0755: 1.                                     |  |  |
| HTXJN39 | 566290 | 7039 | 25 - 240  | 16791 | Ala-4 to Glu-9,<br>Asp-31 to Ser-36,<br>Asp-44 to Glu-53.  | AR054: 19, AR050: 2,<br>AR051: 1<br>H0556: 1 and L0592: 1. |  |  |
| HTXJK20 | 423763 | 7040 | 122 - 349 | 16792 | Lys-1 to Arg-14,<br>Thr-38 to Cys-50.  | H0556: 1 and L0591: 1.                                     |  |  |
| HTXJC08 | 957757 | 7041 | 737 - 450 | 16793 |  | AR054: 16, AR050: 10,<br>AR051: 2<br>H0556: 1              |  |  |
|         | 972481 | 9613 | 410 - 727 | 19365 | Gly-23 to Arg-29,<br>Gly-33 to Ser-42,<br>His-51 to Thr-56,<br>Pro-67 to Ser-79,<br>Ser-84 to Arg-91,<br>Pro-100 to Gly-106. |  |  |  |
| HTXJA76 | 767696 | 7042 | 222 - 386 | 16794 | Ser-6 to Thr-12.   | H0556: 1   |  |  |
| HTXJA32 | 699152 | 7043 | 54 - 344  | 16795 | Ser-2 to Met-7,<br>Pro-18 to Pro-25.   | L0599: 2 and H0556: 1.                                     |  |  |
| HTXGH41 | 712566 | 7044 | 4 - 246   | 16796 | Pro-3 to Glu-8,<br>Val-35 to Asp-40.   | H0265: 1 and L0749: 1.                                     |  |  |
| HTXGE85 | 783418 | 7045 | 1 - 462   | 16797 |  | L0743: 3, L0744: 2 and<br>H0265: 1.                        |  |  |
| HTXFR89 | 790276 | 7046 | 2 - 292   | 16798 | Arg-4 to Cys-16,<br>Pro-18 to Pro-38,<br>Asn-86 to Lys-92.   | H0265: 1 and L0750: 1.                                     |  |  |
| HTXFN90 | 537392 | 7047 | 87 - 374  | 16799 | Gly-26 to Leu-31,  | H0265: 1   |  |  |

|          |        |      |            |       |   |   |  |
|----------|--------|------|------------|-------|---|---|--|
| HTXFN73  | 824543 | 7048 | 82 - 285   | 16800 | Gln-35 to Gly-41.   | H0265: 1  |  |
| HTXFN63  | 745316 | 7049 | 96 - 308   | 16801 |   | H0265: 1  |  |
| HTXFN53  | 537391 | 7050 | 42 - 305   | 16802 |   | H0265: 1  |  |
| HTXFN23  | 537393 | 7051 | 37 - 207   | 16803 |   | H0265: 1  |  |
| HTXFN43  | 537397 | 7052 | 28 - 240   | 16804 | Pro-7 to Asn-13,<br>Pro-19 to Tyr-26,<br>Arg-48 to Phe-55.  | H0265: 1  |  |
| HTXFN20  | 537398 | 7053 | 17 - 217   | 16805 | Lys-11 to Cys-21,<br>Thr-41 to Pro-47,<br>Arg-55 to Thr-60. | H0265: 1  |  |
| HTXFG29  | 689833 | 7054 | 79 - 210   | 16806 |   | H0265: 1  |  |
| HTXFF96  | 796309 | 7055 | 543 - 379  | 16807 | Trp-8 to Ala-13,<br>Gly-22 to Ser-28,<br>Met-38 to Pro-45.  | H0265: 1  |  |
|          | 796314 | 9614 | 133 - 321  | 19366 | Lys-7 to Gly-14,<br>His-16 to Asp-22.                       |   |  |
| HTXFF93  | 934438 | 7056 | 370 - 558  | 16808 | Arg-6 to Ser-11,<br>Val-36 to Ser-43.                       | H0265: 1 and L0748: 1.  |  |
| HTXEY18  | 869406 | 7057 | 132 - 392  | 16809 | Pro-28 to Gly-34.   | H0265: 1  |  |
| HTXEX83  | 780277 | 7058 | 1 - 342    | 16810 |   | H0265: 1 and L0748: 1.  |  |
| HTXEE90  | 789161 | 7059 | 120 - 368  | 16811 | Ser-8 to Trp-19,<br>Glu-75 to Pro-83.                       | L0740: 2 and H0265: 1.  |  |
| HTXEC96  | 796561 | 7060 | 260 - 132  | 16812 |   | H0265: 1 and L0748: 1.  |  |
| HTXEA45  | 723401 | 7061 | 2 - 301    | 16813 | Pro-2 to Ser-11,<br>Arg-36 to Ser-51.                       | H0265: 1 and L0596: 1.  |  |
| HTXDDZ56 | 733641 | 7062 | 155 - 424  | 16814 | Tyr-39 to Tyr-45.   | L0748: 2 and H0265: 1.  |  |
| HTXDW32  | 699539 | 7063 | 810 - 1070 | 16815 | Ser-58 to Ile-66.   | H0265: 1 and L0749: 1.  |  |
| HTXDJ77  | 772473 | 7064 | 2 - 202    | 16816 | Thr-13 to Thr-19.   | H0265: 1 and L0750: 1.  |  |
| HTXDD24  | 888612 | 7065 | 1 - 276    | 16817 |   | AR054: 15, AR050: 4,<br>AR051: 3<br>H0265: 1  |  |
| HTXCW50  | 724650 | 7066 | 3 - 422    | 16818 | Glu-1 to Asp-9,<br>Lys-29 to Lys-46.                        | L0809: 4, L0803: 2, L0777:<br>2, H0265: 1, L0774: 1,<br>L0651: 1, L0749: 1 and<br>L0780: 1. |  |

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| HTXCS84  | 783262 | 7067 | 5 - 82    | 16819 | Glu-18 to Ala-24.   | H0265: 1   |   |
| HTXBT88  | 529663 | 7068 | 17 - 286  | 16820 | Val-1 to Ser-12,<br>Gly-14 to Thr-22,<br>Arg-63 to Ala-71.  | H0265: 1   |   |
| HTXAW03  | 921906 | 7069 | 92 - 376  | 16821 |   | H0265: 1, L0769: 1, L0509:<br>1, L0439: 1, L0747: 1 and<br>L0755: 1.           |   |
| HTXAK96  | 796612 | 7070 | 360 - 485 | 16822 | Lys-1 to Trp-8.   | H0265: 1 and L0748: 1.   |   |
| HTXAJ34  | 707050 | 7071 | 196 - 318 | 16823 | Tyr-13 to Phe-18.   | H0265: 1 and L0754: 1.   |   |
| HTWLI77  | 839177 | 7072 | 1 - 411   | 16824 | Pro-30 to Pro-38.   | H0576: 1   |   |
| HTWLF58  | 869478 | 7073 | 131 - 433 | 16825 | Pro-51 to Gly-58.   | L0766: 1, H0576: 1 and<br>L0779: 1.  |   |
| HTWLD61  | 741610 | 7074 | 3 - 218   | 16826 | Ala-6 to Met-16,<br>Pro-39 to Lys-45.                       | H0576: 1   |   |
| HTWLD10  | 964195 | 7075 | 85 - 189  | 16827 |   | L0803: 1 and H0576: 1.   |   |
| HTWLC51  | 725533 | 7076 | 94 - 201  | 16828 |   | L0748: 2, L0766: 1, H0576:<br>1 and L0779: 1.                                  |   |
| HTWKZ86  | 785318 | 7077 | 121 - 279 | 16829 | Lys-15 to Ser-20,<br>Glu-28 to Trp-36,<br>Lys-38 to Lys-49. | H0576: 1   |   |
| HTWKZ46  | 718872 | 7078 | 160 - 354 | 16830 | Ala-50 to Asn-63.   | H0576: 1   |   |
| HTWKZ35  | 494833 | 7079 | 2 - 127   | 16831 |   | H0576: 1   |   |
| HTWKZ28  | 686254 | 7080 | 177 - 395 | 16832 | Ser-1 to Val-10,<br>Gln-20 to Ser-29,<br>Pro-54 to Cys-67.  | H0576: 1   |   |
| HTWKZ27  | 812689 | 7081 | 142 - 303 | 16833 |   | H0576: 1   |   |
| HTWKZ15  | 659934 | 7082 | 233 - 367 | 16834 | Leu-7 to Leu-13,<br>Pro-15 to Cys-20.                       | H0576: 1   |   |
| HTWKT41  | 712142 | 7083 | 25 - 189  | 16835 | Trp-14 to Ser-25.   | L0766: 1, H0576: 1 and<br>L0754: 1.  |   |
| HTWKZF34 | 703863 | 7084 | 174 - 320 | 16836 |   | L0748: 2 and H0576: 1.   |   |
| HTWKB07  | 952841 | 7085 | 91 - 321  | 16837 | Asp-25 to Lys-30.   | L0763: 1 and H0576: 1.   |   |
| HTWJY36  | 708338 | 7086 | 12 - 251  | 16838 | Pro-27 to Ser-36,<br>Gly-73 to Leu-80.                      | L0761: 2, L0754: 2, L0766:<br>1, H0576: 1, L0779: 1,<br>L0780: 1 and L0755: 1. | 107280, 107280,<br>107400, 107400,<br>122500, 186960,<br>245200, 601841 |

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|---------|--------|------|------------|-------|--|---|------|-----------------|
| HTWJH08 | 790185 | 7087 | 85 - 207   | 16839 | Gly-3 to Cys-12,<br>Lys-33 to Lys-41.  | AR061: 1, AR089: 1<br>H0576: 1  |      |                 |
|         | 846554 | 9615 | 85 - 207   | 19367 | Gly-3 to Cys-12,<br>Lys-33 to Lys-41.  |   |      |                 |
| HTWJF89 | 805706 | 7088 | 45 - 323   | 16840 | Glu-1 to Ser-9,<br>Ser-30 to Ala-36,<br>Gln-61 to Tyr-66.  | H0576: 1 and L0748: 1.  |      |                 |
| HTWJF50 | 911448 | 7089 | 916 - 1434 | 16841 | Thr-12 to Trp-20,<br>Pro-29 to Arg-35,<br>Leu-51 to Arg-58,<br>Arg-100 to Arg-108,<br>Cys-120 to Arg-125,<br>Pro-150 to Arg-163. | L0766: 1 and H0576: 1.  |      |                 |
| HTWJA79 | 559919 | 7090 | 2 - 226    | 16842 | Leu-38 to Lys-43,<br>Ser-52 to Cys-58.   | H0576: 1  |      |                 |
| HTWFQ19 | 586124 | 7091 | 2 - 196    | 16843 |  | AR054: 180, AR050: 146,<br>AR051: 125, AR089: 10,<br>AR061: 4<br>H0436: 1 |      |                 |
| HTWFM90 | 582285 | 7092 | 59 - 187   | 16844 | Leu-16 to Ser-29.  | H0436: 1  |      |                 |
| HTWFM89 | 786805 | 7093 | 110 - 301  | 16845 | Gly-1 to Tyr-13,<br>Arg-26 to Lys-39.  | H0436: 1  |      |                 |
| HTWFM79 | 841983 | 7094 | 19 - 186   | 16846 | Ser-43 to Tyr-49.  | L0766: 1 and H0436: 1.  |      |                 |
| HTWFM71 | 760303 | 7095 | 18 - 242   | 16847 | Leu-7 to Leu-14,<br>Pro-16 to Glu-23,<br>Thr-36 to Glu-51.   | H0436: 1  |      |                 |
| HTWFM48 | 721587 | 7096 | 1 - 114    | 16848 | Val-14 to Leu-27.  | H0436: 1  |      |                 |
| HTWFJ71 | 869491 | 7097 | 346 - 609  | 16849 | Gly-38 to Glu-48.  | L0770: 1 and H0436: 1.  |      |                 |
| HTWFH75 | 767251 | 7098 | 352 - 498  | 16850 |  | H0436: 1 and L0748: 1.  |      |                 |
| HTWFH73 | 761686 | 7099 | 239 - 460  | 16851 |  | H0436: 1 and L0777: 1.  |      |                 |
| HTWFH42 | 713667 | 7100 | 395 - 523  | 16852 |  | H0436: 1, L0748: 1 and<br>L0749: 1.                                       |      |                 |
| HTWFG29 | 800193 | 7101 | 1 - 93     | 16853 | Phe-13 to Glu-20.  | H0436: 1  |      |                 |
| HTWFD63 | 745010 | 7102 | 1 - 183    | 16854 | Lys-21 to Lys-27,<br>Arg-32 to Ser-37.   | L0748: 2 and H0436: 1.  |      |                 |
| HTWEY89 | 864553 | 7103 | 2 - 229    | 16855 | Met-50 to Glu-63,  | H0436: 1 and L0740: 1.  | 8q13 | 122560, 214400, |

|         |        |      |            |       |   |                                     |  |
|---------|--------|------|------------|-------|---|-------------------------------------|--|
| HTWEO90 | 78859  | 7104 | 316 - 522  | 16856 | Ser-70 to Pro-76.   | L0745: 9 and H0436: 1.              | 602476   |
| HTWEJ74 | 765512 | 7105 | 64 - 228   | 16857 |   | H0436: 1 and L0756: 1.              |  |
| HTWEH76 | 876853 | 7106 | 319 - 639  | 16858 | Val-1 to Thr-16.  | H0436: 1 and L0601: 1.              |  |
| HTWEC75 | 767264 | 7107 | 426 - 581  | 16859 | Lys-1 to Glu-10,<br>Leu-15 to Leu-22,<br>Glu-35 to Asn-41.  | L0745: 4, L0750: 2 and<br>H0436: 1. |  |
| HTWDR91 | 869526 | 7108 | 130 - 447  | 16860 |   | H0436: 1                            |  |
| HTWDO06 | 935644 | 7109 | 211 - 345  | 16861 | Leu-23 to Gly-32.   | L0809: 1 and H0436: 1.              |  |
| HTWDK68 | 753086 | 7110 | 253 - 399  | 16862 | Met-36 to Asn-43.   | H0436: 1 and L0608: 1.              |  |
| HTWDJ42 | 713869 | 7111 | 105 - 269  | 16863 | Gly-5 to His-13,<br>Lys-22 to Glu-27.                       | H0436: 1 and L0748: 1.              |  |
| HTWDI49 | 723047 | 7112 | 138 - 281  | 16864 | Ser-24 to Trp-32.   | L0745: 2, H0436: 1 and<br>L0780: 1. |  |
| HTWDE70 | 844831 | 7113 | 188 - 358  | 16865 |   | H0436: 1                            |  |
|         | 859421 | 9616 | 123 - 239  | 19368 |   |                                     |  |
| HTWCL86 | 575978 | 7114 | 134 - 229  | 16866 |   | H0436: 1                            |  |
| HTWCJ08 | 959591 | 7115 | 201 - 413  | 16867 | Asn-22 to Asp-27,<br>Leu-31 to Lys-36.                      | H0436: 1 and L0758: 1.              |  |
| HTWCG06 | 935642 | 7116 | 215 - 319  | 16868 | Thr-1 to Pro-9.   | L0766: 1 and H0436: 1.              |  |
| HTWCD06 | 935646 | 7117 | 387 - 542  | 16869 |   | L0517: 1 and H0436: 1.              |  |
| HTWCB69 | 729244 | 7118 | 27 - 290   | 16870 | Gly-32 to Gly-38,<br>Gly-41 to Gln-53,<br>His-58 to Phe-69. | H0436: 1 and L0748: 1.              |  |
| HTWBW72 | 772117 | 7119 | 244 - 2    | 16871 |   | H0436: 1 and L0439: 1.              |  |
| HTWBV33 | 594496 | 7120 | 1053 - 769 | 16872 |   | H0436: 1                            |  |
|         | 701754 | 9617 | 344 - 189  | 19369 |   |                                     |  |
|         | 813291 | 9618 | 299 - 517  | 19370 | Pro-37 to His-49,<br>Thr-56 to Lys-64.                      |                                     |  |
| HTWBV03 | 869549 | 7121 | 483 - 650  | 16873 |   | L0766: 5, H0436: 1 and<br>L0740: 1. | 139330, 139360,<br>150250, 164500,<br>182280, 227646,<br>261510, 600163,<br>600971, 601154,<br>601226, 601267,<br>601373 |

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| HTWBT62 | 742588 | 7122 | 26 - 208  | 16874 | Glu-6 to Lys-13,<br>Thr-29 to Glu-39,<br>Arg-48 to Gln-59. | H0436: 1 and L0748: 1.   |  |
| HTWBP67 | 751752 | 7123 | 102 - 221 | 16875 |  | H0436: 1 and L0747: 1.   |  |
| HTWBL08 | 959619 | 7124 | 221 - 418 | 16876 | Asn-6 to Ser-15.   | H0436: 1 and L0747: 1.   |  |
| HTWBI04 | 922175 | 7125 | 132 - 362 | 16877 | Pro-12 to Gly-20.  | L0598: 1 and H0436: 1.   |  |
| HTWBF27 | 683546 | 7126 | 82 - 360  | 16878 |  | H0436: 1 and L0752: 1.   |  |
| HTWBE63 | 745194 | 7127 | 181 - 309 | 16879 | Pro-1 to Gly-12.   | H0436: 1 and L0753: 1.   |  |
| HTWBD84 | 783120 | 7128 | 232 - 477 | 16880 | Leu-61 to His-66.  | H0436: 1 and L0748: 1.   |  |
| HTWBD61 | 604245 | 7129 | 285 - 569 | 16881 |  | H0436: 1   |  |
|         | 824129 | 9619 | 418 - 167 | 19371 | Ala-49 to Glu-56.  |  |  |
| HTWAM49 | 722141 | 7130 | 235 - 444 | 16882 |  | H0187: 1 and L0748: 1.   |  |
| HTWAM48 | 518825 | 7131 | 33 - 308  | 16883 | Ser-59 to Glu-71.  | L0605: 2 and H0187: 1.   |  |
| HTWAM25 | 677506 | 7132 | 744 - 289 | 16884 | Thr-1 to Lys-11.   | L0758: 5, L0794: 4, L0803:<br>3, L0744: 2, L0756: 2,<br>L0435: 1, L0804: 1, L0806:<br>1, L0805: 1, L0776: 1,<br>L0809: 1, L0789: 1, H0187:<br>1, L0439: 1, L0751: 1,<br>L0779: 1 and L0591: 1. |  |
| HTWAJ11 | 967845 | 7133 | 261 - 443 | 16885 | His-21 to Pro-27.  | L0759: 2, L0657: 1 and<br>H0187: 1.  |  |
| HTWAE31 | 725127 | 7134 | 3 - 191   | 16886 |  | H0187: 1 and L0439: 1.   |  |
| HTWAB85 | 522346 | 7135 | 89 - 307  | 16887 |  | H0187: 1   |  |
| HTWAB65 | 533745 | 7136 | 151 - 429 | 16888 | Tyr-18 to Lys-31,<br>Ser-50 to Arg-59.                     | H0187: 1   |  |
| HTWAB57 | 735153 | 7137 | 24 - 191  | 16889 | Lys-15 to Ile-20.  | H0187: 1   |  |
| HTWAB46 | 522817 | 7138 | 87 - 218  | 16890 |  | H0187: 1   |  |
| HTWAB42 | 714291 | 7139 | 23 - 217  | 16891 | Ser-1 to Asp-10,<br>Lys-36 to Glu-43.                      | H0187: 1   |  |
| HTWAB32 | 524291 | 7140 | 187 - 321 | 16892 | Leu-7 to Leu-13,<br>Pro-15 to Cys-20,<br>Pro-23 to Cys-28. | H0187: 1   |  |
| HTWAB27 | 522796 | 7141 | 54 - 134  | 16893 |  | H0187: 1   |  |
| HTWAB18 | 522794 | 7142 | 124 - 207 | 16894 |  | H0187: 1   |  |
| HTWAA90 | 789271 | 7143 | 196 - 426 | 16895 | Val-3 to Thr-10,   | H0187: 1   |  |

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|---------|--------|------|-----------|-------|-------------------------------------|--|--------------|
| HTWAA79 | 869563 | 7144 | 214 - 405 | 16896 | Glu-31 to Leu-40.                   | H0187: 1                                   |              |
| HTWAA42 | 522603 | 7145 | 2 - 85    | 16897 | Ser-20 to Leu-28.                   | H0187: 1                                   |              |
| HTWAA32 | 522797 | 7146 | 281 - 439 | 16898 |                                     | H0187: 1                                   |              |
| HTWAA31 | 915276 | 7147 | 77 - 337  | 16899 |                                     | H0187: 1                                   |              |
| HTWAA22 | 425133 | 7148 | 48 - 287  | 16900 | Glu-39 to Thr-47.                   | H0187: 1                                   |              |
| HTWAA17 | 667166 | 7149 | 46 - 276  | 16901 | Ser-17 to Lys-32.                   | H0187: 1                                   |              |
| HTUAE10 | 968597 | 7150 | 237 - 404 | 16902 |                                     | H0185: 1, L0509: 1, L0607: 1 and L0493: 1. |              |
| HTUAA93 | 522950 | 7151 | 1 - 267   | 16903 |                                     | H0185: 1                                   |              |
| HTUAA79 | 773978 | 7152 | 196 - 360 | 16904 |                                     | H0185: 1                                   |              |
| HTUAA63 | 522080 | 7153 | 3 - 134   | 16905 |                                     | H0185: 1                                   |              |
| HTUAA59 | 556958 | 7154 | 151 - 318 | 16906 | Pro-33 to Ser-38.                   | H0185: 1                                   |              |
| HTUAA55 | 522805 | 7155 | 74 - 226  | 16907 | Thr-4 to Asp-10.                    | H0185: 1                                   |              |
| HTUAA51 | 725949 | 7156 | 216 - 317 | 16908 | Leu-5 to Phe-11.                    | L0740: 2 and H0185: 1.                     |              |
| HTUAA45 | 526606 | 7157 | 3 - 203   | 16909 | Gly-39 to Ile-46.                   | H0185: 1                                   |              |
| HTUAA42 | 694535 | 7158 | 38 - 115  | 16910 | Gln-15 to Cys-23.                   | H0185: 1                                   |              |
| HTUAA32 | 522807 | 7159 | 95 - 187  | 16911 | Gln-15 to Phe-20.                   | H0185: 1                                   |              |
| HTUAA25 | 575308 | 7160 | 168 - 452 | 16912 |                                     | L0748: 2 and H0185: 1.                     |              |
| HTUAA23 | 575319 | 7161 | 165 - 371 | 16913 | Arg-6 to Leu-15, Leu-23 to Gly-28.  | H0185: 1                                   |              |
| HTUAA21 | 575312 | 7162 | 2 - 343   | 16914 |                                     | H0185: 1                                   |              |
| HTUAA11 | 967919 | 7163 | 57 - 173  | 16915 |                                     | H0185: 1                                   |              |
| HTUAA06 | 960761 | 7164 | 229 - 384 | 16916 | Asp-1 to Glu-9, Gly-35 to Gly-42.   | H0185: 1                                   |              |
| HTUAA02 | 921277 | 7165 | 178 - 2   | 16917 | Ser-1 to Thr-9, Glu-16 to Leu-22.   | H0185: 1                                   |              |
| HTSHI55 | 576030 | 7166 | 129 - 233 | 16918 | His-3 to Tyr-10, Lys-29 to Asn-34.  | H0087: 1                                   |              |
| HTSHC81 | 778008 | 7167 | 224 - 370 | 16919 |                                     | H0087: 1 and L0602: 1.                     | 14q32.3-qter |
| HTSHB38 | 709445 | 7168 | 3 - 236   | 16920 | Pro-10 to Ala-16.                   | L0589: 2 and H0087: 1.                     |              |
| HTSHB18 | 666569 | 7169 | 20 - 142  | 16921 | Glu-18 to Lys-23, Ser-36 to Arg-41. | H0087: 1, L0438: 1, L0740: 1 and L0758: 1. |              |
| HTSGZ92 | 975082 | 7170 | 1 - 297   | 16922 | Gln-3 to Thr-9.                     | H0087: 1 and L0809: 1.                     |              |
| HTSGQ88 | 576077 | 7171 | 3 - 245   | 16923 | Glu-24 to Arg-38.                   | H0087: 1                                   |              |



|         |        |      |           |       |   |  |          |                           |
|---------|--------|------|-----------|-------|---|--|----------|---------------------------|
| HTSGQ42 | 576078 | 7172 | 1 - 282   | 16924 | Ala-69 to Arg-81.<br>Gly-1 to Glu-6,<br>Pro-15 to Pro-23,<br>Ser-29 to Glu-46,<br>Leu-48 to Asp-66. | H0087: 1                                       |          |                           |
| HTSGM53 | 728289 | 7173 | 199 - 420 | 16925 | Pro-21 to Lys-28.   | L0748: 2 and H0087: 1.                         |          |                           |
| HTSGL89 | 787027 | 7174 | 336 - 539 | 16926 |   | H0087: 1 and L0753: 1.                         |          |                           |
| HTSFU94 | 793056 | 7175 | 1 - 267   | 16927 | Asp-64 to Ser-76,<br>Thr-78 to Ala-86.  | L0747: 3, H0087: 1 and<br>L0731: 1.            |          |                           |
| HTSFF64 | 747003 | 7176 | 2 - 412   | 16928 | Ala-1 to Pro-9,<br>Pro-45 to Pro-55,<br>Pro-63 to Cys-74,<br>Pro-85 to Val-98.                      | H0087: 1, L0744: 1 and<br>L0731: 1.            |          |                           |
| HTSEX79 | 524280 | 7177 | 20 - 253  | 16929 | Gln-16 to Phe-30.   | H0087: 1                                       |          |                           |
| HTSEW02 | 920963 | 7178 | 85 - 264  | 16930 | Ser-53 to Phe-59.   | L0803: 3, H0087: 1, L0754:<br>1 and L0749: 1.  |          |                           |
| HTSAA20 | 836021 | 7179 | 156 - 350 | 16931 |   | H0087: 1 and L0748: 1.                         |          |                           |
| HTOJZ05 | 869900 | 7180 | 2 - 316   | 16932 |   | H0264: 1                                       |          |                           |
|         | 869903 | 9620 | 472 - 768 | 19372 | Pro-7 to Pro-17.  |  |          |                           |
| HTOJV25 | 456941 | 7181 | 2 - 199   | 16933 | Asn-1 to Ile-11.  | H0264: 1                                       |          |                           |
| HTOJT60 | 740599 | 7182 | 185 - 304 | 16934 |   | H0264: 1 and L0754: 1.                         |          |                           |
| HTOJN69 | 869925 | 7183 | 2 - 187   | 16935 |   | H0264: 1 and L0748: 1.                         |          |                           |
| HTOJM95 | 795719 | 7184 | 506 - 315 | 16936 |   | H0264: 1                                       |          |                           |
|         | 796022 | 9621 | 66 - 260  | 19373 |   |  |          |                           |
| HTOJL36 | 866492 | 7185 | 327 - 662 | 16937 | Ser-9 to His-14,<br>Gly-40 to Thr-46.   | H0264: 1                                       |          |                           |
| HTOJF70 | 457041 | 7186 | 208 - 408 | 16938 | Glu-30 to Asp-36.   | H0264: 1 and L0748: 1.                         | 22q13.31 | 250100, 250800,<br>250800 |
| HTOJB05 | 932423 | 7187 | 1 - 258   | 16939 | Ser-24 to Asp-31.   | H0264: 1, L0748: 1 and<br>L0745: 1.            |          |                           |
| HTOIZ49 | 586144 | 7188 | 28 - 219  | 16940 |   | AR054: 35, AR050: 33,<br>AR051: 28<br>H0264: 1 |          |                           |
| HTOIX57 | 735004 | 7189 | 156 - 341 | 16941 | Asn-36 to His-48.   | L0748: 2 and H0264: 1.                         |          |                           |
| HTOIQ30 | 584928 | 7190 | 252 - 407 | 16942 |   | H0264: 1 and L0749: 1.                         |          |                           |
| HTOIL74 | 765840 | 7191 | 1 - 384   | 16943 | Thr-53 to Pro-58,   | H0264: 1 and L0747: 1.                         |          |                           |

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|---------|--------|------|-----------|-------|--|--|--|---|--|
|         |        |      |           |       |  | His-103 to Leu-109,<br>Gln-112 to Trp-126.                                       |  |   |  |
| HTOIK90 | 557829 | 7192 | 130 - 273 | 16944 |  | Gln-14 to Tyr-22.  |  | H0264: 1                                      |  |
| HTOIJ84 | 783212 | 7193 | 342 - 500 | 16945 |  | Gln-1 to Arg-8.  |  | L0754: 2 and H0264: 1.                        |  |
| HTOIH68 | 753595 | 7194 | 201 - 371 | 16946 |  | Pro-11 to Gly-16.  |  | H0264: 1 and L0605: 1.                        |  |
| HTOIH09 | 961168 | 7195 | 59 - 190  | 16947 |  |  |  | S0005: 1 and H0264: 1.                        |  |
| HTOIF08 | 959992 | 7196 | 162 - 488 | 16948 |  | Pro-1 to Arg-10.   |  | L0459: 1, H0264: 1, L0744:<br>1 and L0752: 1. |  |
| HTOIA89 | 787088 | 7197 | 491 - 252 | 16949 |  | Lys-1 to Lys-7.  |  | H0264: 1 and L0748: 1.                        |  |
| HTOIA82 | 844319 | 7198 | 41 - 286  | 16950 |  | Arg-44 to Gly-59.  |  | AR061: 4, AR089: 2                            |  |
| HTOHZ59 | 869950 | 7199 | 26 - 355  | 16951 |  | Ser-10 to Glu-16,<br>Asp-28 to Pro-36.   |  | H0264: 1 and L0754: 1.                        |  |
| HTOHX62 | 537358 | 7200 | 3 - 92    | 16952 |  | Glu-1 to Ile-15.   |  | H0264: 1, L0517: 1 and<br>L0596: 1.           |  |
| HTOHT93 | 791459 | 7201 | 162 - 440 | 16953 |  | Pro-64 to Thr-70.  |  | AR051: 11, AR054: 1,<br>AR050: 1              |  |
| HTOHR03 | 924976 | 7202 | 6 - 329   | 16954 |  | Arg-13 to Gln-21,<br>Phe-25 to Ser-33,<br>Pro-85 to Lys-92.                      |  | H0264: 1                                      |  |
| HTOHN89 | 956264 | 7203 | 167 - 427 | 16955 |  | Asn-42 to Lys-54.  |  | H0264: 1, L0748: 1 and<br>L0749: 1.           |  |
| HTOHI14 | 659280 | 7204 | 119 - 478 | 16956 |  |  |  | H0264: 1                                      |  |
| HTOHH78 | 963216 | 7205 | 544 - 888 | 16957 |  | Thr-4 to Cys-15,<br>Glu-31 to Arg-36,<br>Gln-68 to Trp-80,<br>Ser-98 to Glu-105. |  | L0601: 2 and H0264: 1.                        |  |
| HTOHG68 | 964961 | 7206 | 1 - 183   | 16958 |  | Ser-10 to Pro-19,<br>Thr-23 to Arg-35,<br>Asn-56 to Arg-61.                      |  | H0264: 1 and L0753: 1.                        |  |
| HTOGU88 | 558488 | 7207 | 100 - 285 | 16959 |  |  |  | H0264: 1                                      |  |
| HTOGU78 | 529798 | 7208 | 52 - 138  | 16960 |  |  |  | H0264: 1                                      |  |
| HTOGU77 | 523533 | 7209 | 40 - 132  | 16961 |  | Ser-1 to Ser-7.  |  | H0264: 1                                      |  |
| HTOGC91 | 790438 | 7210 | 308 - 463 | 16962 |  |  |  | H0264: 1 and L0439: 1.                        |  |
| HTOFV57 | 529614 | 7211 | 35 - 184  | 16963 |  | Asn-1 to Glu-14.   |  | H0264: 1                                      |  |
| HTOFV08 | 960203 | 7212 | 1 - 150   | 16964 |  | Ala-11 to Tyr-16,  |  | H0264: 1                                      |  |

|         |        |      |             |       |   |                                     |  |
|---------|--------|------|-------------|-------|---|-------------------------------------|--|
| HTOFU55 | 732454 | 7213 | 77 - 196    | 16965 | Lys-43 to Pro-50.   | H0264: 1 and L0749: 1.              |  |
| HTOFT20 | 527938 | 7214 | 1 - 60      | 16966 | Glu-9 to Tyr-16.  | H0264: 1                            |  |
| HTOFS74 | 765918 | 7215 | 46 - 174    | 16967 | Pro-15 to Leu-20.   | H0264: 1 and L0599: 1.              |  |
| HTOFO18 | 911756 | 7216 | 1179 - 1376 | 16968 | Pro-1 to Trp-13.  | H0264: 1                            |  |
|         | 911956 | 9622 | 980 - 1156  | 19374 | Asn-25 to Leu-34.   |                                     |  |
| HTOFC06 | 960546 | 7217 | 84 - 266    | 16969 |   | H0264: 1 and L0803: 1.              |  |
| HTOEX28 | 936543 | 7218 | 280 - 513   | 16970 | Arg-15 to Gly-22.   | H0264: 1 and L0747: 1.              |  |
| HTOEV91 | 509938 | 7219 | 268 - 38    | 16971 | Pro-11 to Tyr-16,<br>Thr-24 to Ser-35.  | H0264: 1                            |  |
|         | 534071 | 9623 | 581 - 408   | 19375 | Thr-31 to Gly-36.   |                                     |  |
| HTOET61 | 742164 | 7220 | 323 - 445   | 16972 |   | H0264: 1 and L0766: 1.              |  |
| HTOEE28 | 685375 | 7221 | 83 - 259    | 16973 |   | H0264: 1                            |  |
|         | 869988 | 9624 | 306 - 530   | 19376 |   |                                     |  |
| HTODM08 | 960113 | 7222 | 2 - 400     | 16974 | Leu-12 to Phe-18.   | H0264: 1 and L0755: 1.              |  |
| HTODL10 | 968395 | 7223 | 1 - 282     | 16975 | Ser-4 to Glu-14,<br>Gln-16 to Ala-24.   | H0264: 1 and L0601: 1.              |  |
| HTODD59 | 738532 | 7224 | 287 - 400   | 16976 | Pro-3 to Gln-11.  | H0264: 1 and L0754: 1.              |  |
| HTODA31 | 698400 | 7225 | 56 - 436    | 16977 | Gln-4 to Ala-19,<br>Ser-63 to Asn-80,<br>Glu-104 to Ile-110,<br>Pro-121 to Lys-127. | L0777: 2 and H0264: 1.              |  |
| HTOCK85 | 521944 | 7226 | 1 - 201     | 16978 |   | H0272: 1                            |  |
| HTOCK73 | 870004 | 7227 | 103 - 351   | 16979 | Arg-12 to Tyr-19,<br>Tyr-27 to Thr-33,<br>Asn-62 to Ser-71.                         | H0272: 1                            |  |
| HTOCK14 | 529958 | 7228 | 2 - 298     | 16980 |   | H0272: 1                            |  |
| HTOCK03 | 925368 | 7229 | 2 - 124     | 16981 |   | H0272: 1                            |  |
| HTOCA55 | 732469 | 7230 | 20 - 148    | 16982 | Phe-21 to Lys-33.   | H0272: 1                            |  |
| HTOBE60 | 742315 | 7231 | 281 - 469   | 16983 |   | H0272: 1 and L0748: 1.              |  |
| HTOBC63 | 530283 | 7232 | 2 - 190     | 16984 | Ile-1 to Asn-6,<br>Gly-10 to Lys-29.  | H0272: 1                            |  |
| HTOBC26 | 870011 | 7233 | 1 - 159     | 16985 |   | H0272: 1                            |  |
| HTOBA33 | 965151 | 7234 | 295 - 525   | 16986 |   | L0439: 2, H0272: 1 and<br>L0766: 1. |  |

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| HTOAT88 | 530183 | 7235 | 268 - 411 | 16987 |   |  | H0264: 1               |  |
| HTOAT81 | 530185 | 7236 | 1 - 231   | 16988 |   |  | H0264: 1               |  |
| HTOAT68 | 530187 | 7237 | 11 - 187  | 16989 | Arg-1 to Gln-16.  |  | H0264: 1               |  |
| HTOAT66 | 530188 | 7238 | 62 - 208  | 16990 |   |  | H0264: 1               |  |
| HTOAT63 | 523754 | 7239 | 122 - 292 | 16991 | Ser-1 to Trp-6.   |  | H0264: 1               |  |
| HTOAT57 | 870017 | 7240 | 19 - 126  | 16992 | Glu-20 to Arg-27.   |  | H0264: 1               |  |
| HTOAT50 | 723595 | 7241 | 3 - 176   | 16993 |   |  | H0264: 1               |  |
| HTOAT43 | 529840 | 7242 | 52 - 135  | 16994 |   |  | H0264: 1               |  |
| HTOAT35 | 521914 | 7243 | 2 - 100   | 16995 | Asn-1 to Thr-15.  |  | H0264: 1               |  |
| HTOAT28 | 530191 | 7244 | 180 - 326 | 16996 | Lys-7 to Gly-15.  |  | H0264: 1               |  |
| HTOAT27 | 682115 | 7245 | 101 - 295 | 16997 | Phe-5 to Ala-10,<br>Glu-12 to Asn-17,<br>Val-21 to Asp-35,<br>Ile-58 to Asp-64. |  | H0264: 1               |  |
| HTOAT06 | 960581 | 7246 | 2 - 241   | 16998 |   |  | H0264: 1               |  |
| HTOAO63 | 745545 | 7247 | 440 - 634 | 16999 | Arg-1 to Ile-9.   |  | H0264: 1 and L0748: 1. |  |
| HTOAO01 | 921744 | 7248 | 1 - 165   | 17000 |   |  | H0264: 1 and L0754: 1. |  |
| HTOAM08 | 960122 | 7249 | 23 - 181  | 17001 | Ser-3 to Thr-11.  |  | H0264: 1 and L0758: 1. |  |
| HTOAL84 | 783261 | 7250 | 2 - 118   | 17002 | Ser-20 to Thr-27.   |  | H0264: 1 and L0748: 1. |  |
| HTOAK39 | 709579 | 7251 | 109 - 435 | 17003 | Pro-83 to Ser-89.   |  | H0264: 1 and L0581: 1. |  |
| HTOAI51 | 529553 | 7252 | 44 - 193  | 17004 |   |  | H0264: 1               |  |
| HTOAI25 | 529556 | 7253 | 1 - 105   | 17005 |   |  | H0264: 1               |  |
| HTOAI15 | 529557 | 7254 | 61 - 261  | 17006 |   |  | H0264: 1               |  |
| HTOAD05 | 932732 | 7255 | 261 - 94  | 17007 |   |  | H0264: 1 and L0608: 1. |  |
| HTOAA73 | 764707 | 7256 | 89 - 217  | 17008 |   |  | H0264: 1 and L0599: 1. |  |
| HTJNX95 | 795376 | 7257 | 1 - 465   | 17009 | Leu-29 to Lys-36.   |  | H0488: 1 and L0439: 1. |  |
| HTJNT65 | 771995 | 7258 | 195 - 311 | 17010 | Ala-1 to Thr-7.   |  | L0731: 2 and H0488: 1. |  |
| HTJNF11 | 966217 | 7259 | 232 - 582 | 17011 | Ser-5 to Asp-11,<br>Arg-18 to Asn-27,<br>Pro-33 to Glu-39,<br>Ser-44 to Trp-50. |  | H0488: 1 and L0766: 1. |  |
| HTJMZ89 | 973076 | 7260 | 2 - 181   | 17012 |   |  | H0488: 1               |  |
| HTJMU86 | 870312 | 7261 | 268 - 408 | 17013 | Ser-1 to Ala-7.   |  | H0488: 1 and L0766: 1. |  |
| HTJMQ90 | 974496 | 7262 | 98 - 223  | 17014 |   |  | H0488: 1               |  |
| HTJML71 | 759890 | 7263 | 1 - 261   | 17015 | Phe-11 to Thr-21,   |  | H0488: 1 and L0766: 1. |  |

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| HTJMF56 | 733444 | 7264 | 257 - 481 | 17016 | Leu-67 to Ser-75.  | H0488: 1 and L0740: 1.              |  |
| HTJAE78 | 773609 | 7265 | 177 - 404 | 17017 | Ala-22 to Tyr-28.  | H0487: 1                            |  |
| HTJAD50 | 724438 | 7266 | 149 - 298 | 17018 | Thr-13 to Lys-18.  | H0487: 1 and L0748: 1.              |  |
| HTHDS68 | 753137 | 7267 | 3 - 230   | 17019 |  | H0063: 1 and L0748: 1.              |  |
| HTHDR27 | 578830 | 7268 | 150 - 344 | 17020 | Pro-27 to Ser-33,<br>Ser-39 to Pro-44.   | H0063: 1, L0748: 1 and<br>L0749: 1. |  |
| HTHDQ05 | 932174 | 7269 | 36 - 302  | 17021 |  | H0063: 1                            |  |
| HTHDM10 | 964906 | 7270 | 88 - 228  | 17022 | His-16 to Phe-28,<br>Arg-37 to Lys-43.   | H0063: 1 and L0769: 1.              |  |
| HTHDL30 | 578894 | 7271 | 3 - 314   | 17023 |  | H0063: 1                            |  |
| HTHDJ93 | 792443 | 7272 | 170 - 457 | 17024 | Asp-1 to His-6.  | L0759: 2 and H0063: 1.              |  |
| HTHDF13 | 490673 | 7273 | 381 - 175 | 17025 | Ala-49 to Asn-54.  | H0063: 1                            |  |
| HTHDE83 | 516372 | 7274 | 279 - 413 | 17026 | Ser-5 to Asp-11.   | H0063: 1                            |  |
|         | 826819 | 9625 | 456 - 304 | 19377 |  |                                     |  |
| HTHDC07 | 953604 | 7275 | 327 - 533 | 17027 | Gln-13 to Glu-21.  | H0063: 1 and L0764: 1.              |  |
| HTHCV69 | 973309 | 7276 | 137 - 343 | 17028 | Pro-28 to Cys-39.  | H0063: 1                            |  |
| HTHCU42 | 578861 | 7277 | 3 - 224   | 17029 | Gln-7 to Arg-15,<br>Ser-22 to Cys-29.  | H0063: 1                            |  |
| HTHCO72 | 578758 | 7278 | 177 - 323 | 17030 |  | H0063: 1                            |  |
| HTHCO45 | 722029 | 7279 | 1 - 159   | 17031 | Thr-14 to Gly-22,<br>Ser-40 to Glu-45.   | H0063: 1                            |  |
| HTHCK89 | 694051 | 7280 | 276 - 1   | 17032 | Arg-14 to Thr-27,<br>Leu-36 to Gly-42,<br>Arg-51 to Cys-73,<br>Glu-82 to Arg-92. | H0063: 1, L0657: 1 and<br>L0592: 1. |  |
|         | 870359 | 9626 | 1 - 489   | 19378 | Gln-31 to Trp-36,<br>Arg-61 to Lys-80,<br>Pro-93 to Thr-100.                     |                                     |  |
|         | 870365 | 9627 | 219 - 539 | 19379 | Thr-19 to Gly-24.  |                                     |  |
| HTHCG74 | 578839 | 7281 | 1 - 87    | 17033 |  | H0063: 1                            |  |
| HTHBY73 | 946168 | 7282 | 1 - 360   | 17034 | Asp-38 to Gly-44,<br>Cys-92 to Gly-98,<br>Ala-101 to Trp-106.                    | AR061: 12, AR089: 9<br>H0063: 1     |  |
| HTHBW81 | 519640 | 7283 | 134 - 283 | 17035 | His-40 to Asn-47.  | H0063: 1                            |  |

|         |        |      |           |       |  |  |           |   |
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|         | 625209 | 9628 | 485 - 147 | 19380 | Glu-10 to Gln-15.  |  |           |   |
| HTHBW64 | 746955 | 7284 | 318 - 563 | 17036 | Ser-12 to Lys-20,<br>Ala-31 to His-36.                       | H0063: 1 and L0754: 1.   |           |   |
| HTHBU25 | 961627 | 7285 | 294 - 554 | 17037 | Phe-20 to Ser-26,<br>Pro-47 to Thr-55.                       | L0439: 3 and H0063: 1.   |           |   |
| HTHBT36 | 458387 | 7286 | 146 - 310 | 17038 | Asn-15 to Gln-27,<br>Ser-41 to Gly-47.                       | H0063: 1 and L0748: 1.   |           |   |
| HTHBM85 | 790305 | 7287 | 1 - 483   | 17039 | Gly-1 to Arg-7.  | H0063: 1 and L0439: 1.   | 15q24-q25 | 118485, 231680,<br>272800, 272800,<br>272800, 276700,<br>602685 |
| HTHBM60 | 739707 | 7288 | 58 - 201  | 17040 | Tyr-21 to Ser-33.  | H0063: 1 and L0777: 1.   |           |   |
| HTHBK64 | 573926 | 7289 | 181 - 273 | 17041 | Arg-15 to Leu-20,<br>Gly-24 to Arg-31.                       | H0063: 1   |           |   |
| HTHBK47 | 526705 | 7290 | 46 - 240  | 17042 | Gly-1 to Arg-9,  | H0063: 1   |           |   |
| HTHBK04 | 925600 | 7291 | 2 - 148   | 17043 | Gln-15 to Gly-26,<br>Gln-29 to Phe-35.                       | H0063: 1   |           |   |
| HTHBH32 | 699557 | 7292 | 119 - 589 | 17044 | Thr-7 to Arg-19,<br>Lys-60 to Leu-68,<br>Val-107 to Glu-119. | L0803: 2, L0750: 2, H0063:<br>1, L0763: 1, L0772: 1 and<br>L0789: 1. |           |   |
| HTHBG23 | 410319 | 7293 | 3 - 182   | 17045 | Ile-1 to Cys-8,<br>Ser-11 to Leu-22,<br>His-25 to Glu-33.    | H0063: 1   |           |   |
| HTHBC07 | 954440 | 7294 | 323 - 213 | 17046 | Ser-9 to Ser-15.   | H0063: 1   |           |   |
| HTHBC04 | 933029 | 7295 | 123 - 16  | 17047 |  | H0063: 1 and L0764: 1.   |           |   |
| HTHAA24 | 575493 | 7296 | 3 - 239   | 17048 | Ser-49 to Asp-54,<br>Lys-56 to Asp-71.                       | H0062: 1   |           |   |
| HTGG027 | 682376 | 7297 | 3 - 185   | 17049 | Val-2 to Arg-11.   | S0218: 1 and L0754: 1.   |           |   |
| HTGGN71 | 760059 | 7298 | 249 - 428 | 17050 | Phe-1 to Asp-7.  | S0218: 1 and L0748: 1.   |           |   |
| HTGGN51 | 870386 | 7299 | 47 - 238  | 17051 |  | S0218: 1 and L0367: 1.   |           |   |
| HTGFY55 | 731360 | 7300 | 1 - 141   | 17052 | Ala-1 to Ala-7,<br>His-20 to Gly-38.                         | S0218: 1   |           |   |
| HTGFY05 | 928205 | 7301 | 35 - 145  | 17053 | Leu-7 to His-12.   | S0218: 1   |           |   |
| HTGFK70 | 756534 | 7302 | 3 - 131   | 17054 | Gly-7 to Ser-12.   | S0218: 1 and L0777: 1.   |           |   |
| HTGEY89 | 786057 | 7303 | 2 - 202   | 17055 | Pro-59 to Trp-67.  | S0218: 1   |           |   |

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| HTGEY40 | 711177 | 7304 | 76 - 246   | 17056 |  |   | S0218: 1 |   |  |
| HTGEX10 | 963862 | 7305 | 301 - 1017 | 17057 | Arg-3 to Ser-9,<br>Arg-11 to Trp-30,<br>Thr-38 to Tyr-49,<br>Thr-101 to Arg-107,<br>Gly-139 to Tyr-146,<br>Tyr-215 to Lys-223. | AR089: 43, AR061: 9<br>S0218: 1 and L0623: 1.           |          |   |  |
| HTGEX03 | 923445 | 7306 | 135 - 317  | 17058 | Glu-1 to Arg-10,<br>Ser-26 to Gly-39.  | S0218: 1 and L0605: 1.                                  |          |   |  |
| HTGEU48 | 721660 | 7307 | 258 - 425  | 17059 | Asp-48 to Phe-55.  | S0218: 1 and L0599: 1.                                  |          |   |  |
| HTGEG89 | 786665 | 7308 | 28 - 228   | 17060 |  | S0218: 1 and L0748: 1.                                  |          |   |  |
| HTGEG17 | 662369 | 7309 | 254 - 508  | 17061 | Ser-68 to Gly-85.  | L0766: 3, S0218: 1, L0789:<br>1 and L0748: 1.           |          |   |  |
| HTGED13 | 656504 | 7310 | 119 - 244  | 17062 | Ser-32 to Lys-42.  | S0218: 1 and L0748: 1.                                  |          |   |  |
| HTGEA37 | 908606 | 7311 | 3 - 122    | 17063 | Pro-21 to Gly-31.  | S0218: 1 and L0758: 1.                                  | 17q11.2  | 154275, 162200,<br>162200, 182138,<br>239100, 600881,<br>601954, 602403 |  |
| HTGDX37 | 708877 | 7312 | 86 - 466   | 17064 |  | L0748: 2, S0134: 1 and<br>L0749: 1.                     |          |   |  |
| HTGDX10 | 963854 | 7313 | 86 - 316   | 17065 | Ser-8 to Arg-14.   | S0134: 1 and L0517: 1.                                  |          |   |  |
| HTGDV61 | 741381 | 7314 | 297 - 515  | 17066 |  | S0134: 1, L0766: 1 and<br>L0749: 1.                     |          |   |  |
| HTGDV52 | 796065 | 7315 | 104 - 364  | 17067 | Asn-13 to Leu-18,<br>Pro-68 to Ser-73.   | L0747: 2, S0134: 1, L0439:<br>1, L0749: 1 and L0756: 1. |          |   |  |
| HTGCQ86 | 784676 | 7316 | 3 - 392    | 17068 | Thr-46 to Ser-55.  | L0748: 2 and S0134: 1.                                  |          |   |  |
| HTGCH60 | 895628 | 7317 | 382 - 134  | 17069 |  | S0134: 1  |          |   |  |
| HTGCD55 | 732247 | 7318 | 523 - 678  | 17070 |  | L0748: 2 and S0134: 1.                                  |          |   |  |
| HTGBS94 | 578786 | 7319 | 238 - 399  | 17071 |  | S0134: 1  |          |   |  |
| HTGBS70 | 870405 | 7320 | 1 - 120    | 17072 | Glu-14 to Ala-19.  | S0134: 1  |          |   |  |
| HTGBS59 | 739388 | 7321 | 155 - 286  | 17073 |  | S0134: 1 and L0756: 1.                                  |          |   |  |
| HTGBS51 | 578782 | 7322 | 66 - 167   | 17074 |  | S0134: 1  |          |   |  |
| HTGBS34 | 576472 | 7323 | 3 - 200    | 17075 |  | S0134: 1 and L0756: 1.                                  |          |   |  |
| HTGBS08 | 959699 | 7324 | 565 - 810  | 17076 | Leu-10 to His-15,<br>Gly-31 to Glu-36,<br>Glu-53 to Gly-65.  | L0748: 2 and S0134: 1.                                  |          |   |  |

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| HTGBR52 | 727276 | 7325 | 230 - 391 | 17077 | Phe-20 to Ser-25.   | L0754: 2 and S0134: 1.   | 16q22 | 103850, 114835,<br>121360, 217800,<br>218030 |
| HTGBN58 | 738229 | 7326 | 114 - 233 | 17078 |   | S0134: 1 and L0439: 1.   |       |  |
| HTGBL15 | 660483 | 7327 | 225 - 518 | 17079 |   | S0134: 1 and L0748: 1.   |       |  |
| HTGBH09 | 625756 | 7328 | 7 - 126   | 17080 | Glu-29 to Arg-40.   | L0598: 2 and S0134: 1.   |       |  |
| HTGBE67 | 751525 | 7329 | 55 - 228  | 17081 |   | S0134: 1   |       |  |
| HTGBE59 | 578807 | 7330 | 27 - 185  | 17082 | Lys-1 to Lys-7.   | S0134: 1   |       |  |
| HTGBE05 | 932168 | 7331 | 127 - 375 | 17083 | Pro-54 to Pro-59.   | S0134: 1   |       |  |
| HTGAZ86 | 785594 | 7332 | 96 - 239  | 17084 |   | S0134: 1 and L0748: 1.   |       |  |
| HTGAZ75 | 766583 | 7333 | 342 - 479 | 17085 |   | S0134: 1 and L0748: 1.   |       |  |
| HTGAY27 | 683556 | 7334 | 31 - 252  | 17086 |   | L0367: 2, S0134: 1, L0370:<br>1, L0652: 1, L0748: 1 and<br>L0605: 1. |       |  |
| HTGAX83 | 781275 | 7335 | 1 - 210   | 17087 | Asn-18 to Cys-24,<br>Arg-57 to Pro-70.                      | S0134: 1 and L0756: 1.   |       |  |
| HTGAW78 | 773666 | 7336 | 199 - 417 | 17088 | Leu-43 to Thr-48.   | S0134: 1 and L0766: 1.   |       |  |
| HTGAT92 | 496307 | 7337 | 503 - 297 | 17089 |   | S0134: 1 and L0766: 1.   |       |  |
| HTGAT55 | 732248 | 7338 | 162 - 446 | 17090 | Pro-23 to Pro-32,<br>Arg-46 to Trp-51.                      | L0749: 2 and S0134: 1.   |       |  |
| HTGAT16 | 919524 | 7339 | 141 - 356 | 17091 |   | S0134: 1 and L0748: 1.   |       |  |
| HTGAT01 | 870424 | 7340 | 67 - 372  | 17092 |   | S0134: 1 and L0766: 1.   |       |  |
| HTGAS15 | 870423 | 7341 | 14 - 223  | 17093 | Lys-11 to Cys-18.   | S0134: 1, L0756: 1 and<br>L0759: 1.                                  |       |  |
| HTGAR44 | 716740 | 7342 | 22 - 309  | 17094 | Trp-49 to Ala-54,<br>His-62 to Asp-71,<br>Gln-88 to Ser-96. | S0134: 1 and L0581: 1.   |       |  |
| HTGAK39 | 705634 | 7343 | 3 - 173   | 17095 | Pro-31 to Gln-36.   | S0134: 1 and L0766: 1.   |       |  |
| HTGAJ86 | 785672 | 7344 | 3 - 113   | 17096 | Leu-15 to Arg-24.   | S0134: 1 and L0749: 1.   |       |  |
| HTGAJ73 | 764598 | 7345 | 194 - 430 | 17097 | Arg-26 to Glu-31,<br>Gly-51 to Gln-59.                      | S0134: 1 and L0748: 1.   |       |  |
| HTGAI96 | 796541 | 7346 | 349 - 618 | 17098 | Leu-6 to Gly-11.  | S0134: 1, L0748: 1 and<br>L0756: 1.                                  |       |  |
| HTGAI15 | 870441 | 7347 | 214 - 462 | 17099 |   | S0134: 1 and L0749: 1.   |       |  |
| HTGAI13 | 955227 | 7348 | 178 - 387 | 17100 | Asn-29 to Lys-37.   | S0134: 1 and L0748: 1.   |       |  |



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| HTGAD62 | 754052 | 7349 | 1 - 126   | 17101 |   |  | S0134: 1 and L0731: 1.                         |  |  |
| HTGAD16 | 567432 | 7350 | 204 - 554 | 17102 | Gln-29 to Phe-35,<br>Pro-73 to Pro-79,<br>Pro-86 to Pro-99.                   |  | AR051: 22, AR050: 19,<br>AR054: 17<br>S0134: 1 |  |  |
| HTGAD05 | 932378 | 7351 | 223 - 372 | 17103 | Ala-13 to Leu-23,<br>Ala-30 to Asp-40.  |  | L0608: 2 and S0134: 1.                         |  |  |
| HTGAC17 | 664513 | 7352 | 2 - 220   | 17104 | Pro-23 to His-28,<br>Ser-65 to Arg-70.  |  | S0134: 1, L0790: 1 and<br>L0740: 1.            |  |  |
| HTGAA80 | 574099 | 7353 | 119 - 277 | 17105 | Pro-10 to Gln-24.   |  | S0134: 1                                       |  |  |
| HTGAA44 | 574114 | 7354 | 42 - 266  | 17106 | Ser-2 to Glu-10,<br>Lys-18 to Gly-28.   |  | S0134: 1                                       |  |  |
| HTDAC74 | 765656 | 7355 | 6 - 311   | 17107 | His-1 to Trp-6,<br>Arg-36 to Gly-67,<br>Pro-73 to Gln-82.                     |  | L0361: 2, H0477: 1 and<br>L0601: 1.            |  |  |
| HTDAB18 | 870746 | 7356 | 339 - 659 | 17108 | Gly-10 to Ser-17.   |  | H0477: 1 and L0803: 1.                         |  |  |
| HTBAB07 | 954434 | 7357 | 3 - 224   | 17109 | Gln-1 to Met-6,<br>Pro-9 to Asp-14,<br>Glu-36 to Trp-45,<br>Arg-47 to Glu-58. |  | H0075: 1 and L0589: 1.                         |  |  |
| HTBAA86 | 785846 | 7358 | 160 - 420 | 17110 | His-1 to Ala-8.   |  | H0075: 1                                       |  |  |
| HTAIP12 | 969518 | 7359 | 438 - 79  | 17111 | Pro-5 to Arg-10,<br>Gly-71 to Arg-76.   |  | H0635: 1, L0772: 1 and<br>L0662: 1.            |  |  |
| HTAJD72 | 880561 | 7360 | 237 - 88  | 17112 |   |  | H0635: 1 and L0748: 1.                         |  |  |
| HTAIY90 | 973870 | 7361 | 202 - 411 | 17113 | Arg-23 to Trp-48.   |  | H0635: 1                                       |  |  |
| HTAIQ05 | 930947 | 7362 | 147 - 359 | 17114 | Ser-35 to Ile-41.   |  | H0635: 1 and L0070: 1.                         |  |  |
| HTAIG58 | 838701 | 7363 | 288 - 452 | 17115 |   |  | L0455: 2 and H0635: 1.                         |  |  |
| HTAIF22 | 910040 | 7364 | 179 - 457 | 17116 |   |  | AR061: 4, AR089: 3<br>H0635: 1                 |  |  |
| HTAIF11 | 965738 | 7365 | 3 - 461   | 17117 | Glu-1 to Arg-7,<br>His-87 to Gln-95.  |  | H0635: 1                                       |  |  |
| HTAHZ02 | 918304 | 7366 | 65 - 277  | 17118 |   |  | H0635: 1                                       |  |  |
| HTAGB16 | 870855 | 7367 | 249 - 569 | 17119 | His-16 to Trp-25,<br>Asp-55 to Gly-63.  |  | H0635: 1 and L0748: 1.                         |  |  |
| HTAFC92 | 790991 | 7368 | 113 - 418 | 17120 |   |  | AR050: 26, AR051: 23,<br>AR054: 22<br>H0069: 1 |  |  |

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| HTAEV23 | 959129 | 7369 | 823 - 329 | 17121 | Leu-7 to Lys-16,<br>Thr-31 to Arg-41,<br>Lys-54 to Asn-61,<br>Ser-89 to His-104,<br>Lys-126 to Lys-131. | AR061: 6, AR089: 4<br>H0069: 1                |        |                                    |
| HTAEP05 | 932459 | 7370 | 52 - 228  | 17122 | Arg-41 to Glu-46,<br>Glu-49 to Arg-59.  | H0069: 1, L0370: 1, L0776:<br>1 and L0758: 1. |        |                                    |
| HTAEK41 | 870858 | 7371 | 1 - 306   | 17123 | Gly-1 to Arg-7.   | H0069: 1                                      | 2q37.2 |                                    |
| HTAEF68 | 753597 | 7372 | 1 - 168   | 17124 | Thr-27 to Ser-40.   | H0069: 1 and L0439: 1.                        |        |                                    |
| HTADW88 | 425065 | 7373 | 114 - 221 | 17125 |   | H0069: 1                                      |        |                                    |
| HTADW52 | 537376 | 7374 | 63 - 170  | 17126 | Trp-1 to Gly-7.   | H0069: 1                                      |        |                                    |
| HTADO10 | 968307 | 7375 | 3 - 161   | 17127 |   | H0069: 1 and L0438: 1.                        |        |                                    |
| HTADB68 | 753598 | 7376 | 3 - 134   | 17128 | Pro-6 to Lys-17.  | H0069: 1 and L0748: 1.                        |        |                                    |
| HTACX05 | 932467 | 7377 | 419 - 661 | 17129 | Ser-16 to Gly-22.   | H0069: 1 and L0750: 1.                        |        |                                    |
| HTACW82 | 778852 | 7378 | 3 - 134   | 17130 | Ser-1 to Gly-15.  | H0069: 1 and L0748: 1.                        |        |                                    |
| HTABK47 | 720684 | 7379 | 161 - 526 | 17131 |   | L0749: 2, H0069: 1 and<br>L0748: 1.           |        |                                    |
| HTABE12 | 971524 | 7380 | 98 - 187  | 17132 |   | H0069: 1 and L0748: 1.                        |        |                                    |
| HTAAO12 | 972231 | 7381 | 64 - 291  | 17133 |   | H0069: 1 and L0643: 1.                        |        |                                    |
| HTAAB06 | 960796 | 7382 | 110 - 15  | 17134 | Ser-1 to Gly-9,<br>Pro-12 to Gly-25,<br>Pro-27 to Gly-32.   | L0518: 4 and H0069: 1.                        |        |                                    |
| HTAAA45 | 518652 | 7383 | 299 - 123 | 17135 | Asn-6 to Ser-11,<br>Pro-28 to Trp-37,<br>Thr-39 to Lys-50.  | H0069: 1                                      |        |                                    |
| HTAAA31 | 693527 | 7384 | 130 - 2   | 17136 | Phe-19 to Gln-24.   | H0069: 1 and L0740: 1.                        |        |                                    |
| HT4AY23 | 973773 | 7385 | 2 - 169   | 17137 | Pro-2 to Cys-18,<br>Phe-22 to Gly-29.   | H0141: 1                                      |        |                                    |
| HT3TA67 | 752169 | 7386 | 1 - 483   | 17138 | Gln-1 to Ser-9,<br>Ser-43 to Glu-53,<br>Leu-84 to Phe-92,<br>Leu-96 to Ile-101.                         | L0439: 3 and H0223: 1.                        |        |                                    |
| HT3SH28 | 508061 | 7387 | 1 - 210   | 17139 | Gln-16 to Ser-21,<br>Thr-48 to Lys-56.  | H0222: 1                                      |        |                                    |
| HT3SA81 | 589206 | 7388 | 3 - 272   | 17140 | Pro-27 to Ser-35,<br>Pro-51 to Trp-58.  | H0222: 1                                      | 1q21   | 104770, 107670,<br>110700, 135940, |

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|         |        |      |           |       |  |   |  |  | 145001, 146790,<br>152445, 152445,<br>159001, 174000,<br>179755, 182860,<br>182860, 182860,<br>191315, 230800,<br>230800, 266200,<br>600897, 601105,<br>601412, 601652,<br>602491 |
| HT3SA80 | 781631 | 7389 | 134 - 349 | 17141 | Gly-27 to Ala-33.  | H0222: 1                                      |  |  |   |
| HT3SA71 | 766391 | 7390 | 54 - 326  | 17142 | Gln-20 to Phe-26,<br>Val-73 to Asn-91.                     | H0222: 1                                      |  |  |   |
| HT3SA56 | 522757 | 7391 | 233 - 418 | 17143 | Asn-32 to Lys-43.  | H0222: 1                                      |  |  |   |
| HT3BK75 | 766488 | 7392 | 1 - 273   | 17144 |  | H0159: 1 and L0743: 1.                        |  |  |   |
| HT3BF33 | 527782 | 7393 | 80 - 181  | 17145 | Val-27 to Ser-33.  | H0159: 1                                      |  |  |   |
| HT2TA82 | 522751 | 7394 | 77 - 160  | 17146 |  | H0221: 1                                      |  |  |   |
| HT2TA37 | 522754 | 7395 | 20 - 193  | 17147 | Glu-38 to Ser-44.  | H0221: 1                                      |  |  |   |
| HT2SA86 | 524290 | 7396 | 101 - 265 | 17148 | Ser-9 to Ser-14,<br>Glu-30 to Ile-36,<br>Tyr-38 to His-43. | H0220: 1                                      |  |  |   |
| HT2SA63 | 518341 | 7397 | 37 - 171  | 17149 |  | H0220: 1                                      |  |  |   |
| HT2SA50 | 522771 | 7398 | 180 - 326 | 17150 | Pro-1 to Asn-7,<br>Gly-23 to Ile-28.                       | L0748: 2 and H0220: 1.                        |  |  |   |
| HT2SA48 | 508077 | 7399 | 52 - 273  | 17151 | Gly-25 to His-31.  | H0220: 1                                      |  |  |   |
| HT2SA47 | 578704 | 7400 | 110 - 247 | 17152 |  | H0220: 1                                      |  |  |   |
| HT2SA38 | 840184 | 7401 | 21 - 155  | 17153 |  | H0220: 1                                      |  |  |   |
| HT2SA37 | 695038 | 7402 | 2 - 97    | 17154 |  | H0220: 1                                      |  |  |   |
| HT2SA26 | 522770 | 7403 | 403 - 272 | 17155 | Lys-1 to Leu-11.   | H0220: 1 and L0439: 1.                        |  |  |   |
| HT2SA13 | 870917 | 7404 | 124 - 336 | 17156 | Glu-1 to Val-11,<br>Leu-34 to Tyr-44.                      | H0220: 1                                      |  |  |   |
| HT1TB40 | 575355 | 7405 | 114 - 251 | 17157 |  | H0219: 1                                      |  |  |   |
| HSYDH60 | 949156 | 7406 | 115 - 282 | 17158 | Pro-20 to Ser-25,<br>Phe-49 to Trp-54.                     | L0731: 2, H0551: 1, L0747:<br>1 and L0750: 1. |  |  |   |
| HSYCZ04 | 926955 | 7407 | 233 - 376 | 17159 |  | H0551: 1 and L0745: 1.                        |  |  |   |
| HSYCV01 | 940661 | 7408 | 1 - 522   | 17160 | Thr-11 to Arg-16.  | H0551: 1 and L0740: 1.                        |  |  |   |

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| HSYCS04 | 926943 | 7409 | 247 - 134 | 17161 |  |   | H0551: 1 and L0542: 1.   |     |  |
| HSYBZ51 | 725586 | 7410 | 2 - 388   | 17162 |  |   | H0551: 1 and L0752: 1.   |     |  |
| HSYBX42 | 713630 | 7411 | 1 - 210   | 17163 |  | Arg-10 to Arg-20,<br>Ala-35 to Gly-54.  | H0551: 1 and L0601: 1.   |     |  |
| HSYBW55 | 731627 | 7412 | 245 - 532 | 17164 |  | Ile-1 to Asn-10.  | H0551: 1 and L0740: 1.   |     |  |
| HSYBK77 | 772067 | 7413 | 59 - 541  | 17165 |  |   | H0551: 1, L0740: 1 and<br>L0777: 1.  |     |  |
| HSYBH70 | 756492 | 7414 | 89 - 475  | 17166 |  | Val-1 to Asp-6,<br>Val-10 to Asn-20,<br>Gly-33 to Asn-46,<br>Glu-57 to Ser-62,<br>Ala-69 to Gln-74,<br>Asp-90 to Ser-100. | L0439: 2, H0551: 1 and<br>L0745: 1.  |     |  |
| HSYBH16 | 661807 | 7415 | 2 - 571   | 17167 |  | Pro-10 to Arg-16.   | H0551: 1, L0747: 1 and<br>L0777: 1.  |     |  |
| HSYAV79 | 928403 | 7416 | 85 - 408  | 17168 |  |   | H0551: 1 and L0766: 1.   |     |  |
| HSYAU07 | 953032 | 7417 | 1 - 216   | 17169 |  |   | H0551: 1, L0779: 1, L0592:<br>1 and L0608: 1.                                  |     |  |
| HSYAF81 | 493771 | 7418 | 134 - 3   | 17170 |  | Leu-22 to Ala-28,<br>Lys-33 to Arg-44.  | H0551: 1   |     |  |
| HSMBD15 | 659891 | 7419 | 2 - 421   | 17171 |  | Ser-36 to Thr-42.   | S0298: 1 and L0740: 1.   | 19q |  |
| HSMBC78 | 917244 | 7420 | 374 - 610 | 17172 |  |   | S0298: 1 and L0759: 1.   |     |  |
| HSMBA83 | 780932 | 7421 | 9 - 239   | 17173 |  | Pro-9 to Trp-16,<br>Pro-55 to Leu-61,<br>Asn-70 to Gly-77.  | S0298: 1 and L0756: 1.   |     |  |
| HSMBA39 | 715630 | 7422 | 166 - 363 | 17174 |  |   | L0770: 2, L0749: 2, S0298:<br>1, L0653: 1, L0776: 1,<br>L0659: 1 and L0789: 1. |     |  |
| HSAZQ69 | 754362 | 7423 | 170 - 298 | 17175 |  |   | S0114: 1 and L0754: 1.   |     |  |
| HSAZP83 | 780400 | 7424 | 283 - 510 | 17176 |  | Arg-15 to Ile-23,<br>Thr-33 to Phe-39.  | S0114: 1 and L0745: 1.   |     |  |
| HSAZP65 | 747422 | 7425 | 15 - 284  | 17177 |  | Thr-8 to Trp-13.  | S0114: 1 and L0754: 1.   |     |  |
| HSAZI64 | 746074 | 7426 | 326 - 517 | 17178 |  | Leu-9 to His-14.  | S0114: 1 and L0756: 1.   |     |  |
| HSAZI53 | 727757 | 7427 | 239 - 337 | 17179 |  |   | L0748: 2 and S0114: 1.   |     |  |
| HSAZG52 | 726195 | 7428 | 274 - 396 | 17180 |  | Ile-16 to Gly-21.   | L0754: 2 and S0114: 1.   |     |  |
| HSAZG23 | 950023 | 7429 | 120 - 467 | 17181 |  |   | AR089: 40, AR061: 7  |     |  |

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|         | 963220 | 9629 | 466 - 152 | 19381 | Pro-13 to Asp-20,<br>Thr-27 to Arg-32,<br>Lys-53 to Trp-59,<br>Pro-65 to Gly-70,<br>Gly-77 to Gly-86. | L0523: 2, S0114: 1, L0748:<br>1 and L0749: 1. |  |  |
| HSZA42  | 866817 | 7430 | 136 - 324 | 17182 | Ser-16 to Lys-21.   | S0114: 1                                      |  |  |
| HSZA39  | 705365 | 7431 | 131 - 328 | 17183 | Ile-15 to His-21.   | S0114: 1 and L0594: 1.                        |  |  |
| HSZA06  | 935451 | 7432 | 173 - 364 | 17184 | Gln-9 to Leu-16.  | S0114: 1                                      |  |  |
| HSAYT37 | 708803 | 7433 | 170 - 316 | 17185 | His-23 to Arg-29.   | S0114: 1 and L0748: 1.                        |  |  |
| HSAYT29 | 866821 | 7434 | 343 - 585 | 17186 |   | S0114: 1 and L0530: 1.                        |  |  |
| HSAYR63 | 744333 | 7435 | 1 - 318   | 17187 |   | S0114: 1 and L0748: 1.                        |  |  |
| HSAYO42 | 713793 | 7436 | 169 - 405 | 17188 | Arg-8 to Phe-16,<br>Gln-25 to Gly-31,<br>Gln-37 to Asn-45.  | S0114: 1 and L0754: 1.                        |  |  |
| HSAYK93 | 791546 | 7437 | 215 - 433 | 17189 | Arg-16 to His-25,<br>Arg-47 to Phe-57,<br>Pro-60 to Ser-68.   | L0749: 2 and S0114: 1.                        |  |  |
| HSAXS16 | 661933 | 7438 | 1 - 165   | 17190 | Lys-40 to Ser-45,<br>Cys-49 to Arg-55.  | S0114: 1 and L0748: 1.                        |  |  |
| HSAXM08 | 866838 | 7439 | 343 - 648 | 17191 | Val-34 to Asp-39,<br>Ser-73 to Ser-87,<br>Lys-93 to Arg-100.  | S0114: 1                                      |  |  |
|         | 958886 | 9630 | 212 - 499 | 19382 |   |   |  |  |
| HSAXJ95 | 721825 | 7440 | 135 - 446 | 17192 |   | S0114: 1 and L0439: 1.                        |  |  |
| HSAXJ93 | 792516 | 7441 | 301 - 453 | 17193 | Glu-6 to Lys-12.  | S0114: 1 and L0757: 1.                        |  |  |
| HSAXI05 | 932387 | 7442 | 151 - 357 | 17194 | Gln-6 to Asn-20,<br>Val-22 to Thr-36.   | S0114: 1 and L0756: 1.                        |  |  |
| HSAXH85 | 784475 | 7443 | 32 - 181  | 17195 |   | S0114: 1 and L0748: 1.                        |  |  |
| HSAXG45 | 457077 | 7444 | 67 - 243  | 17196 | Gln-13 to Ser-21.   | S0114: 1 and L0756: 1.                        |  |  |
| HSAXE42 | 714040 | 7445 | 3 - 227   | 17197 |   | L0742: 2 and S0114: 1.                        |  |  |
| HSAXE33 | 702673 | 7446 | 131 - 334 | 17198 |   | S0114: 1 and L0753: 1.                        |  |  |
| HSAXC55 | 732368 | 7447 | 363 - 202 | 17199 | Lys-24 to Glu-30,<br>Ser-46 to Gln-54.  | S0114: 1 and L0600: 1.                        |  |  |
| HSAXB89 | 787069 | 7448 | 102 - 224 | 17200 | Leu-2 to Asp-12.  | S0114: 1 and L0745: 1.                        |  |  |

|         |        |      |           |       |   |                                  |        |
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| HSAWY92 | 792888 | 7449 | 114 - 389 | 17201 | Leu-2 to Thr-7.                                     | S0114: 1, L0748: 1 and L0749: 1. |        |
| HSAWY81 | 574184 | 7450 | 21 - 239  | 17202 | Tyr-21 to Arg-26, Val-48 to Ala-54.                 | S0114: 1                         |        |
| HSAWY79 | 574182 | 7451 | 1 - 204   | 17203 | His-56 to Ser-62.                                   | S0114: 1                         |        |
| HSAWY33 | 866861 | 7452 | 85 - 222  | 17204 |   | S0114: 1 and L0592: 1.           |        |
| HSAWY07 | 953851 | 7453 | 241 - 381 | 17205 |   | S0114: 1                         |        |
| HSAWW74 | 765818 | 7454 | 40 - 120  | 17206 |   | S0114: 1 and L0439: 1.           | 9p22.2 |
| HSAWU12 | 968804 | 7455 | 72 - 368  | 17207 | Ile-1 to Leu-8, Ser-31 to Thr-40, Glu-69 to Pro-80. | S0114: 1 and L0748: 1.           |        |
| HSAWS74 | 765819 | 7456 | 166 - 345 | 17208 | Asn-44 to Arg-57.                                   | S0114: 1 and L0595: 1.           |        |
| HSAWS40 | 711441 | 7457 | 37 - 159  | 17209 |   | S0114: 1 and L0748: 1.           |        |
| HSAWR08 | 959943 | 7458 | 3 - 359   | 17210 | Asn-13 to Lys-20, Val-92 to Arg-98.                 | L0758: 3 and S0114: 1.           |        |
| HSAWO08 | 959938 | 7459 | 176 - 319 | 17211 | Ser-20 to Leu-28.                                   | S0114: 1 and L0717: 1.           |        |
| HSAWL77 | 772444 | 7460 | 175 - 285 | 17212 |   | L0748: 4 and S0114: 1.           |        |
| HSAWL68 | 753569 | 7461 | 143 - 292 | 17213 | Gly-5 to Glu-10.                                    | S0114: 1 and L0750: 1.           |        |
| HSAWK67 | 526767 | 7462 | 212 - 361 | 17214 |   | S0114: 1                         |        |
| HSAWK32 | 418690 | 7463 | 14 - 220  | 17215 |   | S0114: 1                         |        |
| HSAWK21 | 954897 | 7464 | 14 - 283  | 17216 | Glu-51 to Asn-61.                                   | S0114: 1                         |        |
| HSAWK20 | 866872 | 7465 | 134 - 307 | 17217 |   | S0114: 1                         |        |
| HSAWI13 | 971727 | 7466 | 273 - 539 | 17218 | Pro-15 to Phe-22, Gly-46 to His-55.                 | S0114: 1, L0779: 1 and L0591: 1. |        |
| HSAWI11 | 964949 | 7467 | 167 - 322 | 17219 |   | S0114: 1 and L0754: 1.           |        |
| HSAWG44 | 716820 | 7468 | 146 - 346 | 17220 | Leu-3 to Lys-9.                                     | L0753: 2, S0114: 1 and L0521: 1. |        |
| HSAWF86 | 675220 | 7469 | 38 - 253  | 17221 |   | S0114: 1 and L0748: 1.           |        |
| HSAWF52 | 728598 | 7470 | 2 - 328   | 17222 |   | S0114: 1 and L0745: 1.           |        |
| HSAWD34 | 706928 | 7471 | 194 - 349 | 17223 |   | S0114: 1 and L0740: 1.           |        |
| HSAWD24 | 677435 | 7472 | 3 - 236   | 17224 |   | S0114: 1 and L0748: 1.           |        |
| HSAWD15 | 660572 | 7473 | 316 - 447 | 17225 |   | S0114: 1, L0438: 1 and L0439: 1. |        |
| HSAWC55 | 866890 | 7474 | 102 - 347 | 17226 | Ser-1 to Gln-12.                                    | S0114: 1                         |        |
| HSAWB70 | 757409 | 7475 | 12 - 170  | 17227 |   | S0114: 1 and L0748: 1.           |        |

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| HSAVZ82 | 881166 | 7476 | 115 - 291 | 17228 |  |  | S0114: 1 and L0748: 1.                        |         |                                   |
| HSAVZ63 | 574195 | 7477 | 113 - 253 | 17229 | Thr-5 to Thr-10.                       |  | S0114: 1                                      |         |                                   |
| HSAVY10 | 968230 | 7478 | 36 - 212  | 17230 |  |  | S0114: 1 and L0601: 1.                        |         |                                   |
| HSAVY02 | 920721 | 7479 | 81 - 422  | 17231 | Thr-11 to Ser-18,<br>Leu-56 to Glu-70. |  | S0114: 1, L0527: 1 and<br>L0682: 1.           |         |                                   |
| HSAVX22 | 674919 | 7480 | 116 - 247 | 17232 |  |  | S0114: 1 and L0748: 1.                        |         |                                   |
| HSAVW13 | 862754 | 7481 | 115 - 225 | 17233 |  |  | S0114: 1 and L0748: 1.                        |         |                                   |
| HSAVV36 | 866886 | 7482 | 2 - 208   | 17234 |  |  | S0114: 1, L0748: 1 and<br>L0361: 1.           |         |                                   |
| HSAVS48 | 721856 | 7483 | 21 - 131  | 17235 |  |  | S0114: 1 and L0746: 1.                        |         |                                   |
| HSAVQ73 | 929276 | 7484 | 501 - 695 | 17236 | Leu-47 to Asp-61.                      |  | S0114: 1 and L0604: 1.                        | 11q23.3 | 176000, 261640,<br>602574, 602574 |
| HSAVP56 | 733616 | 7485 | 3 - 206   | 17237 |  |  | S0114: 1 and L0748: 1.                        |         |                                   |
| HSAVO05 | 932379 | 7486 | 35 - 253  | 17238 | Ser-26 to Cys-33,<br>Gly-53 to Pro-62. |  | S0114: 1 and L0773: 1.                        |         |                                   |
| HSAVN72 | 574129 | 7487 | 3 - 296   | 17239 |  |  | S0114: 1 and L0748: 1.                        |         |                                   |
| HSAVN48 | 526505 | 7488 | 1 - 144   | 17240 |  |  | S0114: 1                                      |         |                                   |
| HSAVN24 | 574106 | 7489 | 2 - 112   | 17241 | Glu-1 to Trp-16,<br>His-18 to Ser-26.  |  | S0114: 1                                      |         |                                   |
| HSAVK84 | 783183 | 7490 | 127 - 246 | 17242 |  |  | S0114: 1 and L0748: 1.                        |         |                                   |
| HSAV184 | 783182 | 7491 | 84 - 233  | 17243 |  |  | L0748: 3, S0114: 1, L0740:<br>1 and L0749: 1. |         |                                   |
| HSAV153 | 728361 | 7492 | 1 - 219   | 17244 | Lys-1 to Leu-25.                       |  | L0605: 2 and S0114: 1.                        |         |                                   |
| HSAVG96 | 796544 | 7493 | 86 - 238  | 17245 |  |  | S0114: 1 and L0598: 1.                        |         |                                   |
| HSAVF17 | 664515 | 7494 | 221 - 313 | 17246 | Asn-19 to Phe-24.                      |  | S0114: 1, L0766: 1, L0665:<br>1 and L0748: 1. |         |                                   |
| HSAVE61 | 742076 | 7495 | 238 - 447 | 17247 | Gly-43 to Ser-57.                      |  | S0114: 1 and L0599: 1.                        |         |                                   |
| HSAVA79 | 781800 | 7496 | 1 - 111   | 17248 | Val-2 to Glu-7.                        |  | S0114: 1 and L0731: 1.                        |         |                                   |
| HSAVA22 | 674977 | 7497 | 79 - 189  | 17249 | Phe-17 to Gln-23.                      |  | S0114: 1, L0521: 1 and<br>L0748: 1.           |         |                                   |
| HSAUZ11 | 967609 | 7498 | 42 - 338  | 17250 | Arg-13 to Gly-19.                      |  | S0114: 1 and L0766: 1.                        |         |                                   |
| HSAUW24 | 679279 | 7499 | 57 - 341  | 17251 | Tyr-46 to Phe-51.                      |  | S0114: 1 and L0748: 1.                        |         |                                   |
| HSAUU25 | 679278 | 7500 | 315 - 659 | 17252 | Asn-32 to Pro-40,<br>Ser-49 to Cys-54. |  | L0748: 3, L0749: 3, L0596:<br>2 and S0114: 1. |         |                                   |
| HSAUQ81 | 866192 | 7501 | 49 - 309  | 17253 |  |  | AR051: 41, AR050: 27,                         |         |                                   |

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|         |        |      |           |       |  |  |   | AR054: 22<br>S0114: 1 and L0766: 1.           |  |  |
|         | 899273 | 9631 | 201 - 389 | 19383 |  |  |   |   |  |  |
| HSAUQ54 | 730928 | 7502 | 161 - 373 | 17254 |  |  |   | S0114: 1 and L0748: 1.                        |  |  |
| HSAUQ44 | 716847 | 7503 | 61 - 201  | 17255 |  |  |   | S0114: 1 and L0754: 1.                        |  |  |
| HSAUL84 | 908440 | 7504 | 3 - 302   | 17256 |  |  | Pro-16 to Phe-22.   | AR061: 1, AR089: 1<br>S0114: 1 and L0686: 1.  |  |  |
| HSAUK72 | 766240 | 7505 | 110 - 280 | 17257 |  |  | Pro-11 to Ser-17.   | S0114: 1 and L0591: 1.                        |  |  |
| HSAUK48 | 883205 | 7506 | 2 - 238   | 17258 |  |  | Pro-5 to Gly-15,<br>Ala-35 to Gln-40.   | S0114: 1 and L0750: 1.                        |  |  |
| HSAUI23 | 422961 | 7507 | 485 - 129 | 17259 |  |  |   | L0789: 2, S0114: 1, L0748:<br>1 and L0599: 1. |  |  |
|         | 843427 | 9632 | 405 - 608 | 19384 |  |  | Leu-3 to Gly-11,<br>Glu-14 to Ala-21.   |   |  |  |
| HSAUH06 | 954543 | 7508 | 2 - 211   | 17260 |  |  |   | S0114: 1 and L0599: 1.                        |  |  |
| HSAUH02 | 917314 | 7509 | 3 - 224   | 17261 |  |  |   | S0114: 1, L0749: 1 and<br>L0589: 1.           |  |  |
| HSAUG74 | 765859 | 7510 | 358 - 483 | 17262 |  |  |   | S0114: 1, L0740: 1 and<br>L0747: 1.           |  |  |
| HSAUD02 | 920827 | 7511 | 37 - 237  | 17263 |  |  |   | S0114: 1 and L0748: 1.                        |  |  |
| HSAUB69 | 514840 | 7512 | 179 - 406 | 17264 |  |  | Gly-15 to Lys-20.   | S0114: 1                                      |  |  |
|         | 567319 | 9633 | 50 - 229  | 19385 |  |  |   |   |  |  |
| HSAUB39 | 705677 | 7513 | 157 - 357 | 17265 |  |  | Lys-23 to Thr-35.   | S0114: 1 and L0748: 1.                        |  |  |
| HSAJZ81 | 778268 | 7514 | 101 - 268 | 17266 |  |  |   | L0745: 2 and S0114: 1.                        |  |  |
| HSATY22 | 674986 | 7515 | 3 - 401   | 17267 |  |  | Glu-31 to Tyr-43,<br>Pro-94 to Arg-108.   | L0779: 4, L0758: 2, S0114:<br>1 and L0749: 1. |  |  |
| HSATW91 | 790394 | 7516 | 223 - 333 | 17268 |  |  |   | S0114: 1 and L0748: 1.                        |  |  |
| HSATW51 | 725879 | 7517 | 284 - 529 | 17269 |  |  | Leu-12 to Lys-31.   | S0114: 1 and L0740: 1.                        |  |  |
| HSATV96 | 843424 | 7518 | 526 - 681 | 17270 |  |  |   | S0114: 1 and L0748: 1.                        |  |  |
| HSATS25 | 866949 | 7519 | 2 - 184   | 17271 |  |  | Lys-36 to Ile-41,<br>Val-56 to Lys-61.  | S0114: 1, L0766: 1 and<br>L0779: 1.           |  |  |
| HSATQ55 | 732406 | 7520 | 57 - 350  | 17272 |  |  | Asn-3 to Ser-8,<br>Asn-16 to His-24,<br>Phe-42 to Gly-48,<br>Arg-71 to Lys-81,<br>Gly-88 to Gly-98. | S0114: 1 and L0748: 1.                        |  |  |



| HSATM64 | 862436 | 7521 | 356 - 640 | 17273 | Gly-1 to Gly-8,<br>Ser-26 to Ala-39,<br>Ser-52 to Arg-58,<br>Ser-63 to Leu-71,<br>Ala-90 to Ser-95. | L0747: 3, L0756: 2, S0114:<br>1 and L0750: 1.  |  |  |
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| HSATM19 | 866954 | 7522 | 281 - 448 | 17274 |   | S0114: 1 and L0748: 1.                         |  |  |
| HSATM09 | 456326 | 7523 | 42 - 176  | 17275 |   | S0114: 1 and L0599: 1.                         |  |  |
| HSATL02 | 920825 | 7524 | 3 - 227   | 17276 | Arg-1 to Asn-8,<br>Glu-10 to Asp-16.  | L0518: 3 and S0114: 1.                         |  |  |
| HSATL58 | 866955 | 7525 | 124 - 429 | 17277 | Pro-51 to Pro-58.   | S0114: 1 and L0509: 1.                         |  |  |
| HSATE53 | 728414 | 7526 | 224 - 448 | 17278 |   | L0748: 3 and S0114: 1.                         |  |  |
| HSATC79 | 602167 | 7527 | 269 - 424 | 17279 | Ser-14 to Thr-23.   | S0114: 1 and L0600: 1.                         |  |  |
| HSATC72 | 761511 | 7528 | 219 - 332 | 17280 | Asp-14 to Thr-20.   | L0731: 2 and S0114: 1.                         |  |  |
| HPSAD92 | 790524 | 7529 | 77 - 298  | 17281 |   | H0074: 1 and L0748: 1.                         |  |  |
| HPSAB26 | 429558 | 7530 | 142 - 282 | 17282 | Asp-1 to Gly-7,<br>Pro-41 to Gln-47.  | H0074: 1                                       |  |  |
| HPSAB24 | 518747 | 7531 | 171 - 341 | 17283 | Pro-5 to Ala-13,<br>Pro-15 to Thr-24.   | H0074: 1                                       |  |  |
| HPSAB15 | 503600 | 7532 | 126 - 401 | 17284 |   | L0748: 2, L0749: 2 and<br>H0074: 1.            |  |  |
| HPSAA94 | 793000 | 7533 | 356 - 75  | 17285 |   | H0074: 1                                       |  |  |
| HPSAA93 | 867387 | 7534 | 2 - 178   | 17286 |   | H0074: 1                                       |  |  |
| HPSAA91 | 503543 | 7535 | 275 - 6   | 17287 | Ser-31 to Pro-37,<br>Pro-52 to Trp-60,<br>Leu-66 to Leu-71.   | H0074: 1                                       |  |  |
| HPSAA75 | 503544 | 7536 | 317 - 138 | 17288 |   | H0074: 1 and L0748: 1.                         |  |  |
| HPSAA41 | 503569 | 7537 | 257 - 355 | 17289 | Leu-1 to Asn-11.  | H0074: 1                                       |  |  |
| HPSAA30 | 503567 | 7538 | 29 - 253  | 17290 | Val-19 to Met-29.   | L0766: 3 and H0074: 1.                         |  |  |
| HPSAA03 | 960941 | 7539 | 529 - 362 | 17291 |   | H0074: 1                                       |  |  |
| HNNTA24 | 911178 | 7540 | 189 - 596 | 17292 | Leu-98 to Ala-105,<br>Pro-120 to Gly-127.   | AR050: 87, AR054: 77,<br>AR051: 70<br>H0679: 1 |  |  |
|         | 972489 | 9634 | 182 - 589 | 19386 | Leu-98 to Ala-105,<br>Pro-120 to Gly-127.   |  |  |  |
| HNHPF67 | 859817 | 7541 | 191 - 475 | 17293 |   | S0216: 1 and L0748: 1.                         |  |  |
| HNHPD68 | 974350 | 7542 | 13 - 252  | 17294 | Thr-1 to His-12.  | S0216: 1                                       |  |  |

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| HNHOX01 | 915303 | 7543 | 3 - 176   | 17295 | Glu-12 to Ser-18,<br>Arg-24 to Pro-35,<br>Pro-43 to Arg-49.                     | S0216: 1   |      |        |
| HNHOV24 | 974344 | 7544 | 138 - 278 | 17296 | Lys-21 to Pro-27,<br>Arg-41 to Thr-47.  | L0532: 1 and S0216: 1.                                     |      |        |
| HNHOQ36 | 859824 | 7545 | 108 - 473 | 17297 | Ala-47 to Gly-52,<br>Pro-87 to Ser-98.  | L0493: 2 and S0216: 1.                                     |      |        |
| HNHOP92 | 790911 | 7546 | 2 - 256   | 17298 | Gly-1 to Ser-7,<br>Glu-9 to Asp-18.   | S0216: 1 and L0589: 1.                                     |      |        |
| HNHOP88 | 974327 | 7547 | 3 - 215   | 17299 | Gln-43 to His-51.   | S0216: 1   |      |        |
| HNHOP32 | 974330 | 7548 | 293 - 445 | 17300 |   | S0216: 1   |      |        |
| HNHOI63 | 838790 | 7549 | 103 - 336 | 17301 | Ser-61 to Pro-72.   | L0521: 1 and S0216: 1.                                     |      |        |
| HNHOI07 | 952285 | 7550 | 167 - 358 | 17302 | Asn-1 to Asn-10,<br>Glu-12 to Val-20,<br>Trp-29 to Gly-39,<br>Ser-53 to Thr-60. | S0216: 1 and L0592: 1.                                     |      |        |
| HNHOF94 | 948720 | 7551 | 2 - 508   | 17303 | Pro-94 to Ser-102.  | AR051: 25, AR050: 24,<br>AR054: 20, AR089: 17,<br>AR061: 9 |      |        |
| HNHNT20 | 773683 | 7552 | 133 - 279 | 17304 |   | S0216: 1   | 6p24 | 134570 |
| HNHNQ08 | 958377 | 7553 | 148 - 429 | 17305 |   | S0216: 1 and L0748: 1.                                     |      |        |
| HNHNP81 | 928378 | 7554 | 143 - 514 | 17306 | Ile-1 to Ser-16.  | AR051: 23, AR054: 11,<br>AR050: 9, AR061: 8,<br>AR089: 5   |      |        |
| HNHNP66 | 918684 | 7555 | 3 - 326   | 17307 |   | S0216: 1   |      |        |
| HNHNO01 | 915358 | 7556 | 200 - 367 | 17308 |   | S0216: 1 and L0749: 1.                                     |      |        |
| HNHNM39 | 950971 | 7557 | 249 - 88  | 17309 | Val-2 to Thr-12.  | S0216: 1 and L0750: 1.                                     |      |        |
| HNHNK02 | 918715 | 7558 | 225 - 512 | 17310 | Leu-33 to Ser-40.   | L0370: 1 and S0216: 1.                                     |      |        |
| HNHNI24 | 859836 | 7559 | 146 - 403 | 17311 |   | L0775: 1, S0216: 1, L0438:<br>1 and L0752: 1.              |      |        |
| HNHNI09 | 800482 | 7560 | 223 - 483 | 17312 | Ser-28 to Arg-33.   | S0216: 1   |      |        |
| HNHNH51 | 974343 | 7561 | 1 - 255   | 17313 |   | S0216: 1   |      |        |
| HNHND85 | 870121 | 7562 | 71 - 529  | 17314 | Pro-21 to Ser-26,<br>His-29 to Arg-35.  | L0753: 2 and S0216: 1.                                     |      |        |

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|          |        |      |           |       |  |  | Pro-41 to Leu-50,<br>Thr-87 to Arg-99.   |  |   |  |
| HNHND81  | 974334 | 7563 | 2 - 229   | 17315 |  |  | Thr-24 to Ser-29,<br>Pro-31 to Thr-40,<br>Leu-44 to Val-61.                      |  | S0216: 1                                      |  |
| HNHND07  | 952273 | 7564 | 186 - 320 | 17316 |  |  |  |  | S0216: 1 and L0748: 1.                        |  |
| HNHNB92  | 790945 | 7565 | 34 - 342  | 17317 |  |  | Pro-47 to Gly-55.  |  | S0216: 1 and L0777: 1.                        |  |
| HNHNB85  | 783887 | 7566 | 149 - 322 | 17318 |  |  |  |  | S0216: 1 and L0745: 1.                        |  |
| HNHNB02  | 918709 | 7567 | 124 - 234 | 17319 |  |  |  |  | S0216: 1 and L0748: 1.                        |  |
| HNHNMZ49 | 859842 | 7568 | 220 - 426 | 17320 |  |  |  |  | S0216: 1 and L0589: 1.                        |  |
| HNHMY52  | 975207 | 7569 | 2 - 190   | 17321 |  |  | Asn-7 to Ile-25,<br>Ala-29 to His-41.  |  | S0216: 1                                      |  |
| HNHMS26  | 975206 | 7570 | 155 - 286 | 17322 |  |  | Ile-33 to Ser-41.  |  | S0216: 1                                      |  |
| HNHMQ86  | 784986 | 7571 | 2 - 151   | 17323 |  |  | Pro-1 to Thr-7,<br>Pro-26 to Tyr-31.   |  | S0216: 1 and L0731: 1.                        |  |
| HNHMQ28  | 859847 | 7572 | 6 - 131   | 17324 |  |  |  |  | S0216: 1 and L0748: 1.                        |  |
| HNHMF02  | 918649 | 7573 | 2 - 169   | 17325 |  |  | Phe-1 to Phe-7,<br>Lys-23 to Lys-30.   |  | S0216: 1 and L0758: 1.                        |  |
| HNHLY58  | 859849 | 7574 | 571 - 323 | 17326 |  |  |  |  | L0365: 1 and S0216: 1.                        |  |
| HNHLW34  | 859850 | 7575 | 353 - 66  | 17327 |  |  | Glu-9 to Lys-19.   |  | S0216: 1 and L0438: 1.                        |  |
| HNHLW10  | 963542 | 7576 | 16 - 213  | 17328 |  |  | Lys-8 to Cys-14.   |  | S0216: 1 and L0361: 1.                        |  |
| HNHLR36  | 859851 | 7577 | 402 - 587 | 17329 |  |  |  |  | L0520: 1 and S0216: 1.                        |  |
| HNHLQ07  | 952279 | 7578 | 387 - 566 | 17330 |  |  |  |  | L0749: 3 and S0216: 1.                        |  |
| HNHLG36  | 855071 | 7579 | 335 - 556 | 17331 |  |  |  |  | L0659: 1, L0663: 1, S0216:<br>1 and L0601: 1. |  |
| HNHLD70  | 756668 | 7580 | 3 - 221   | 17332 |  |  | Ser-10 to Thr-21,<br>Pro-23 to Asn-34,<br>Leu-42 to Thr-51.                      |  | S0216: 1 and L0592: 1.                        |  |
| HNHLC01  | 915363 | 7581 | 277 - 519 | 17333 |  |  |  |  | L0385: 1 and S0216: 1.                        |  |
| HNHLB03  | 923091 | 7582 | 2 - 256   | 17334 |  |  | Ala-17 to Cys-32,<br>Gln-38 to Lys-47,<br>Ser-58 to Ala-64,<br>Arg-66 to Trp-72. |  | L0741: 4 and S0216: 1.                        |  |
| HNHKT86  | 785104 | 7583 | 379 - 44  | 17335 |  |  |  |  | L0439: 2 and S0216: 1.                        |  |
| HNHKKQ50 | 723868 | 7584 | 84 - 434  | 17336 |  |  |  |  | L0748: 2, L0766: 1, S0216:<br>1 and L0779: 1. |  |

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| HNHKP03 | 923276 | 7585 | 350 - 679 | 17337 | Pro-20 to His-29.  | L0758: 3 and S0216: 1.           |  |
| HNHKI61 | 859925 | 7586 | 335 - 505 | 17338 |  | L0766: 1, S0216: 1 and L0740: 1. |  |
| HNHIS54 | 730706 | 7587 | 189 - 1   | 17339 |  | S0053: 1 and L0439: 1.           |  |
| HNHIR83 | 781195 | 7588 | 36 - 284  | 17340 |  | S0053: 1 and L0439: 1.           |  |
| HNHIC85 | 784345 | 7589 | 137 - 442 | 17341 | Asp-1 to Pro-11,<br>Gly-27 to Cys-34.  | S0053: 1, L0748: 1 and L0749: 1. |  |
| HNHHL58 | 736064 | 7590 | 136 - 501 | 17342 | Ile-2 to Arg-8,<br>Phe-21 to Gln-30.   | S0053: 1 and L0596: 1.           |  |
| HNHHG53 | 830068 | 7591 | 172 - 336 | 17343 |  | S0053: 1 and L0591: 1.           |  |
| HNHHF86 | 784698 | 7592 | 168 - 383 | 17344 |  | S0053: 1                         |  |
| HNHHF61 | 741836 | 7593 | 86 - 316  | 17345 |  | S0053: 1                         |  |
| HNHHF52 | 726576 | 7594 | 101 - 292 | 17346 | Thr-35 to Pro-40.  | S0053: 1                         |  |
| HNHHF39 | 705407 | 7595 | 149 - 346 | 17347 | Glu-16 to Pro-21,<br>Pro-30 to Pro-36,<br>Arg-47 to Ser-58,<br>Leu-60 to Lys-65. | S0053: 1                         |  |
| HNHHF38 | 709278 | 7596 | 41 - 184  | 17348 | Ile-38 to Pro-47.  | S0053: 1                         |  |
| HNHHF37 | 708714 | 7597 | 2 - 229   | 17349 |  | S0053: 1                         |  |
| HNHHF28 | 694365 | 7598 | 3 - 227   | 17350 | Glu-5 to Pro-14.   | S0053: 1 and L0600: 1.           |  |
| HNHHF13 | 657245 | 7599 | 138 - 55  | 17351 | Pro-1 to Lys-12,<br>Lys-18 to Leu-24.  | S0053: 1                         |  |
| HNHHF03 | 924221 | 7600 | 101 - 193 | 17352 | Ser-10 to Val-16.  | S0053: 1                         |  |
| HNHHC61 | 741839 | 7601 | 89 - 196  | 17353 | Pro-1 to Gln-8.  | L0758: 2, S0053: 1 and L0602: 1. |  |
| HNHGX61 | 948731 | 7602 | 136 - 291 | 17354 | Pro-26 to Lys-34,<br>Pro-47 to Gln-52.   | S0053: 1 and L0589: 1.           |  |
| HNHGV62 | 743400 | 7603 | 1 - 228   | 17355 | Ser-61 to Pro-70.  | S0053: 1                         |  |
| HNHGU56 | 859953 | 7604 | 117 - 440 | 17356 |  | L0369: 1 and S0053: 1.           |  |
| HNHGT92 | 496480 | 7605 | 12 - 164  | 17357 |  | S0053: 1                         |  |
| HNHGT84 | 781977 | 7606 | 110 - 307 | 17358 |  | S0053: 1                         |  |
| HNHGT80 | 775409 | 7607 | 45 - 260  | 17359 | Glu-8 to Lys-14,<br>Arg-20 to Gln-25.  | S0053: 1                         |  |
| HNHGT15 | 660304 | 7608 | 144 - 311 | 17360 | Ser-13 to Gln-27.  | L0589: 2 and S0053: 1.           |  |
| HNHGT09 | 625615 | 7609 | 1 - 243   | 17361 | Thr-2 to Asp-10,   | S0053: 1                         |  |

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| HNHGS24 | 677228 | 7610 | 350 - 748 | 17362 | Asp-16 to Ile-21,<br>Ile-25 to Lys-36.                       | L0749: 3, L0748: 2 and<br>S0053: 1.                         |   |  |
| HNHGO45 | 582523 | 7611 | 547 - 879 | 17363 | Cys-51 to Ser-57,<br>Arg-68 to His-77,<br>Asn-93 to His-102. | L0748: 2 and S0053: 1.<br>11p15.5-p15.4                     | 125852, 126452,<br>126452, 130650,<br>141900, 141900,<br>141900, 141900,<br>141900, 141900,<br>142000, 142000,<br>142200, 142250,<br>142270, 150000,<br>176730, 176730,<br>176730, 190020,<br>191290, 192500,<br>192500, 194071,<br>194071, 204500,<br>257200, 257200,<br>600856, 601680,<br>602631, 602631 |  |
| HNHGN27 | 859972 | 7612 | 3 - 314   | 17364 | Glu-5 to Ser-14,<br>Pro-22 to Cys-27.                        | L0758: 2 and S0053: 1.                                      |   |  |
| HNHGI60 | 740396 | 7613 | 159 - 488 | 17365 |  | L0745: 4 and S0053: 1.                                      |   |  |
| HNHGI03 | 923829 | 7614 | 1 - 309   | 17366 | Glu-92 to Lys-103.   | S0053: 1  |   |  |
| HNHGH83 | 781208 | 7615 | 2 - 241   | 17367 | Ala-8 to Leu-13,<br>Lys-26 to Val-32.                        | S0053: 1 and L0592: 1.                                      |   |  |
| HNHGH22 | 859983 | 7616 | 3 - 251   | 17368 | His-1 to Thr-7,<br>Glu-28 to Asn-37.                         | S0053: 1 and L0748: 1.                                      |   |  |
| HNHGG39 | 561093 | 7617 | 117 - 329 | 17369 |  | AR051: 10, AR050: 10,<br>AR054: 9<br>S0053: 1 and L0361: 1. |   |  |
| HNHGF28 | 686735 | 7618 | 18 - 443  | 17370 | Pro-5 to Gly-12.   | S0053: 1 and L0740: 1.                                      |   |  |
| HNHGE91 | 790212 | 7619 | 3 - 242   | 17371 | Glu-18 to Ser-29,<br>Val-31 to Arg-41,<br>Gly-47 to Phe-54.  | S0053: 1  |   |  |
| HNHGE81 | 777955 | 7620 | 44 - 295  | 17372 | Lys-29 to Trp-40.  | S0053: 1  |   |  |

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| HNHGE79 | 775214 | 7621 | 107 - 286 | 17373 | Glu-29 to Asp-35.  | S0053: 1                            |  |
| HNHGE68 | 753052 | 7622 | 1 - 174   | 17374 | Gly-1 to Ser-7,<br>Thr-12 to Lys-19.                         | S0053: 1                            |  |
| HNHGE44 | 683294 | 7623 | 1 - 339   | 17375 | Thr-50 to Glu-59.  | L0589: 3 and S0053: 1.              |  |
| HNHGE31 | 698046 | 7624 | 59 - 169  | 17376 |  | S0053: 1                            |  |
| HNHGE24 | 677234 | 7625 | 50 - 154  | 17377 | Pro-16 to Tyr-24.  | S0053: 1                            |  |
| HNHGE12 | 970722 | 7626 | 1 - 396   | 17378 | Gly-1 to Arg-17,<br>Ser-24 to Cys-33,<br>Thr-78 to Arg-88.   | S0053: 1                            |  |
| HNHGD08 | 959494 | 7627 | 1 - 249   | 17379 | Ala-24 to Glu-30.  | S0053: 1 and L0603: 1.              |  |
| HNHGC92 | 792740 | 7628 | 109 - 285 | 17380 | Asn-22 to Lys-31.  | S0053: 1                            |  |
| HNHGC91 | 790199 | 7629 | 103 - 225 | 17381 | Ser-1 to Gln-9,<br>Pro-15 to Thr-27,<br>His-29 to Tyr-39.    | S0053: 1                            |  |
| HNHGC45 | 720747 | 7630 | 3 - 359   | 17382 | Cys-20 to Ile-27,<br>Thr-45 to Gly-51,<br>Gly-93 to Gly-101. | L0617: 1, L0157: 1 and<br>S0053: 1. |  |
| HNHGC32 | 699286 | 7631 | 1 - 192   | 17383 | Lys-36 to Tyr-41.  | S0053: 1                            |  |
| HNHGC21 | 670949 | 7632 | 58 - 423  | 17384 | Gln-80 to Leu-87.  | S0053: 1                            |  |
| HNHGC20 | 859991 | 7633 | 14 - 247  | 17385 | Arg-5 to Glu-10.   | S0053: 1                            |  |
| HNHGC19 | 668692 | 7634 | 2 - 250   | 17386 |  | S0053: 1                            |  |
| HNHGC08 | 962224 | 7635 | 53 - 271  | 17387 | Gln-11 to Asp-19.  | S0053: 1                            |  |
| HNHGC07 | 953414 | 7636 | 44 - 328  | 17388 | Ser-14 to Leu-20,<br>Arg-62 to Gly-68.                       | S0053: 1                            |  |
| HNHGB12 | 970726 | 7637 | 377 - 676 | 17389 |  | L0761: 1, S0053: 1 and<br>L0758: 1. |  |
| HNHGA53 | 973803 | 7638 | 111 - 260 | 17390 |  | S0053: 1                            |  |
| HNHFX68 | 752305 | 7639 | 3 - 188   | 17391 | Asp-19 to Glu-28,<br>Ser-38 to Arg-44,<br>Gly-51 to Lys-62.  | S0053: 1 and L0592: 1.              |  |
| HNHFX08 | 959475 | 7640 | 287 - 448 | 17392 |  | L0365: 1 and S0053: 1.              |  |
| HNHFX10 | 961275 | 7641 | 55 - 222  | 17393 | Gln-20 to Glu-26,<br>Ser-32 to Glu-47.                       | S0053: 1                            |  |
| HNHFX08 | 959484 | 7642 | 33 - 218  | 17394 | Ala-9 to Asn-17.   | S0053: 1 and L0592: 1.              |  |
| HNHFX07 | 953403 | 7643 | 111 - 314 | 17395 | Tyr-17 to His-22.  | S0053: 1 and L0779: 1.              |  |

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| HNHFV49 | 975415 | 7644 | 520 - 768 | 17396 |  | AR061: 12, AR089: 5<br>S0053: 1                                      |  |  |
| HNHFV30 | 566339 | 7645 | 2 - 151   | 17397 | Pro-23 to Trp-32.  | AR051: 103, AR050: 100,<br>AR054: 83<br>S0053: 1                     |  |  |
| HNHFU64 | 937179 | 7646 | 264 - 467 | 17398 | Pro-37 to Ala-47.  | AR051: 11, AR061: 3,<br>AR089: 2, AR050: 2,<br>AR054: 1<br>S0053: 1  |  |  |
| HNHFU56 | 733513 | 7647 | 155 - 352 | 17399 | Gln-6 to Ser-15,<br>Pro-17 to Ala-29.  | S0053: 1 and L0748: 1.   |  |  |
| HNHFU12 | 970882 | 7648 | 220 - 387 | 17400 |  | S0053: 1 and L0608: 1.   |  |  |
| HNHFR69 | 757646 | 7649 | 256 - 429 | 17401 |  | S0053: 1 and L0589: 1.   |  |  |
| HNHFP94 | 888666 | 7650 | 3 - 287   | 17402 | Lys-47 to Pro-54.  | AR051: 88, AR050: 84,<br>AR054: 67<br>S0053: 1                       |  |  |
| HNHFP89 | 786967 | 7651 | 129 - 284 | 17403 |  | S0053: 1 and L0745: 1.   |  |  |
| HNHFP03 | 924606 | 7652 | 1 - 204   | 17404 | Pro-23 to Gly-29.  | L0766: 1 and S0053: 1.   |  |  |
| HNHEM74 | 506283 | 7653 | 1 - 270   | 17405 | Gly-12 to Trp-17.  | S0053: 1   |  |  |
| HNHEM54 | 486847 | 7654 | 341 - 514 | 17406 | Lys-1 to Asp-9,<br>Lys-15 to Glu-21,<br>Glu-29 to Gly-34.                          | S0053: 1   |  |  |
|         | 490923 | 9635 | 631 - 329 | 19387 |  |  |  |  |
| HNHFL96 | 576414 | 7655 | 160 - 495 | 17407 | Ser-1 to Lys-10,<br>Gly-16 to Gly-27.  | S0053: 1   |  |  |
| HNHFL28 | 973273 | 7656 | 347 - 469 | 17408 | Ser-30 to Gly-38.  | S0053: 1   |  |  |
| HNHFH24 | 903741 | 7657 | 28 - 480  | 17409 | His-8 to Gly-18,<br>Ala-39 to Gly-45,<br>Pro-94 to Glu-101.                        | AR054: 20, AR050: 15,<br>AR061: 7, AR089: 4,<br>AR051: 1<br>S0053: 1 |  |  |
| HNHFH23 | 675942 | 7658 | 75 - 734  | 17410 | Val-24 to Glu-29,<br>Ser-62 to Ser-68,<br>Ala-75 to Ser-81,<br>Lys-138 to Phe-145. | L0740: 2 and S0053: 1.   |  |  |
| HNHFF79 | 638126 | 7659 | 153 - 281 | 17411 |  | AR051: 21, AR050: 8<br>S0053: 1                                      |  |  |

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| HNHFF30 | 692811 | 7660 | 2 - 178   | 17412 | Asn-37 to Cys-43,<br>Gly-50 to Phe-57.   | S0053: 1 and L0748: 1.                        |   |  |
| HNHFE01 | 916782 | 7661 | 186 - 308 | 17413 |  | L0758: 2 and S0053: 1.                        |   |  |
| HNHFD68 | 576448 | 7662 | 1 - 147   | 17414 | Pro-19 to Gly-32.  | AR050: 7, AR054: 6,<br>AR051: 3<br>S0053: 1   |   |  |
| HNHFB21 | 842707 | 7663 | 9 - 125   | 17415 | Arg-10 to Thr-20.  | S0053: 1                                      |   |  |
| HNHEW83 | 781217 | 7664 | 256 - 498 | 17416 | Lys-2 to Thr-8,<br>Ser-12 to Trp-25,<br>Trp-33 to Cys-39.                        | L0748: 2 and S0053: 1.                        |   |  |
| HNHEW18 | 666524 | 7665 | 54 - 197  | 17417 |  | S0053: 1, L0438: 1 and<br>L0748: 1.           | 5 |  |
| HNHEU20 | 668909 | 7666 | 72 - 275  | 17418 |  | S0053: 1 and L0740: 1.                        |   |  |
| HNHEQ03 | 535701 | 7667 | 68 - 277  | 17419 | Gly-34 to Ser-41.  | S0053: 1                                      |   |  |
|         | 535815 | 9636 | 68 - 277  | 19388 | Gly-34 to Ser-41.  |   |   |  |
|         | 923484 | 9637 | 74 - 283  | 19389 | Gly-34 to Ser-41.  |   |   |  |
| HNHEP86 | 490390 | 7668 | 505 - 278 | 17420 | Glu-1 to Ser-9,<br>Lys-14 to Leu-20,<br>Asp-44 to Gly-57.                        | S0053: 1                                      |   |  |
|         | 785285 | 9638 | 71 - 364  | 19390 | Gln-1 to Ala-13,<br>Pro-52 to Gly-57,<br>Leu-84 to Gln-90,<br>Pro-92 to Asp-98.  |   |   |  |
| HNHEL72 | 760706 | 7669 | 18 - 164  | 17421 |  | S0053: 1 and L0589: 1.                        |   |  |
| HNHEL34 | 706636 | 7670 | 248 - 553 | 17422 | Gln-12 to Met-20,<br>Pro-26 to Gly-31,<br>Phe-39 to Asn-44,<br>Glu-50 to Thr-64. | L0439: 2, S0053: 1 and<br>L0751: 1.           |   |  |
| HNHEL27 | 506284 | 7671 | 114 - 380 | 17423 | Arg-11 to Asn-20.  | S0053: 1                                      |   |  |
| HNHEK69 | 757649 | 7672 | 244 - 402 | 17424 |  | S0053: 1 and L0439: 1.                        |   |  |
| HNHEJ78 | 800165 | 7673 | 20 - 154  | 17425 |  | S0053: 1                                      |   |  |
| HNHEJ20 | 669763 | 7674 | 305 - 472 | 17426 | Ser-1 to Trp-15.   | S0053: 1 and L0439: 1.                        |   |  |
| HNHEI90 | 888553 | 7675 | 22 - 168  | 17427 | Arg-25 to Gln-34.  | AR054: 16, AR050: 12,<br>AR051: 8<br>S0053: 1 |   |  |
| HNHEI37 | 419752 | 7676 | 35 - 205  | 17428 | Pro-46 to Met-51.  | L0766: 1 and S0053: 1.                        |   |  |



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| HNHEH28  | 973296 | 7677 | 22 - 198  | 17429 | Arg-5 to His-11,<br>Thr-13 to Cys-22,<br>Cys-50 to Thr-55. | L0617: 1 and S0053: 1.                                     |  |  |
| HNHEG71  | 760464 | 7678 | 23 - 190  | 17430 | Leu-7 to Asp-17,<br>Gly-19 to His-27,<br>Pro-33 to Glu-49. | S0053: 1   |  |  |
| HNHEF53  | 576417 | 7679 | 201 - 362 | 17431 | Met-18 to Cys-23.  | S0053: 1   |  |  |
| HNHEF08  | 958854 | 7680 | 493 - 230 | 17432 |  | S0053: 1   |  |  |
|          | 958883 | 9639 | 70 - 339  | 19391 | Ser-46 to Ser-51.  |  |  |  |
| HNHEE03  | 924619 | 7681 | 351 - 485 | 17433 |  | S0053: 1 and L0759: 1.                                     |  |  |
| HNHED88  | 576529 | 7682 | 3 - 206   | 17434 |  | AR051: 22, AR054: 15,<br>AR050: 11<br>S0053: 1             |  |  |
| HNHED18  | 666594 | 7683 | 450 - 599 | 17435 | Ser-17 to Asp-23,<br>Ile-32 to Arg-38.                     | L0749: 2, S0053: 1 and<br>L0748: 1.                        |  |  |
| HNHED25  | 973295 | 7684 | 109 - 330 | 17436 | Thr-50 to Gly-55.  | S0053: 1   |  |  |
| HNHEDY14 | 542062 | 7685 | 151 - 396 | 17437 |  | AR054: 14, AR051: 1,<br>AR050: 1<br>S0053: 1 and L0759: 1. |  |  |
|          | 753132 | 9640 | 156 - 380 | 19392 |  |  |  |  |
| HNHDX57  | 734933 | 7686 | 1 - 219   | 17438 |  | S0053: 1 and L0752: 1.                                     |  |  |
| HNHDX30  | 692875 | 7687 | 302 - 454 | 17439 |  | S0053: 1 and L0748: 1.                                     |  |  |
| HNHDXW94 | 883870 | 7688 | 257 - 568 | 17440 | Lys-8 to Pro-17,<br>Leu-92 to Ala-99.                      | L0509: 1 and S0053: 1.                                     |  |  |
| HNHDXW16 | 422903 | 7689 | 246 - 1   | 17441 |  | L0589: 2 and S0053: 1.                                     |  |  |
|          | 661809 | 9641 | 91 - 339  | 19393 | Arg-1 to Ser-17,<br>Arg-35 to Ser-40,<br>Gly-64 to Leu-74. |  |  |  |
| HNHDXV95 | 559341 | 7690 | 67 - 288  | 17442 | Ala-19 to Leu-25.  | AR054: 15, AR050: 3<br>S0053: 1                            |  |  |
|          | 860083 | 9642 | 58 - 279  | 19394 | Ala-19 to Leu-25.  |  |  |  |
| HNHDXV93 | 792467 | 7691 | 2 - 349   | 17443 |  | L0748: 4 and S0053: 1.                                     |  |  |
| HNHDXV16 | 863116 | 7692 | 185 - 3   | 17444 | Thr-30 to Thr-51.  | AR051: 28, AR050: 23,<br>AR054: 20<br>S0053: 1             |  |  |
| HNHDXT83 | 974277 | 7693 | 55 - 198  | 17445 |  | S0053: 1   |  |  |

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| HNHDT33  | 576483 | 7694 | 2 - 166   | 17446 |  |  | S0053: 1                            |       |  |
| HNHDT32  | 573332 | 7695 | 3 - 122   | 17447 | Ser-12 to Lys-24,<br>Lys-29 to Arg-35.   |  | S0053: 1                            |       |  |
| HNHDT19  | 573355 | 7696 | 2 - 130   | 17448 | Ser-20 to Pro-26.  |  | S0053: 1                            |       |  |
| HNHDT12  | 576464 | 7697 | 3 - 92    | 17449 |  |  | S0053: 1                            |       |  |
| HNHDQ05  | 932223 | 7698 | 2 - 382   | 17450 | Gly-14 to Arg-26,<br>Thr-43 to Arg-58,<br>Pro-63 to Gly-71,<br>Lys-86 to Gly-95. |  | S0005: 2, S0053: 1 and<br>L0589: 1. |       |  |
| HNHDM15  | 660509 | 7699 | 215 - 427 | 17451 | Thr-40 to Ser-46,<br>Pro-48 to Pro-58,<br>Ser-65 to Glu-70.                      |  | L0747: 2 and S0053: 1.              |       |  |
| HNHHDH40 | 574312 | 7700 | 74 - 319  | 17452 |  |  | S0053: 1                            |       |  |
| HNHHDH03 | 924895 | 7701 | 68 - 334  | 17453 | Gln-1 to Leu-12,<br>Ser-16 to His-21.  |  | S0053: 1                            |       |  |
| HNHDF07  | 953883 | 7702 | 92 - 379  | 17454 |  |  | S0053: 1 and L0361: 1.              |       |  |
| HNHDD52  | 520297 | 7703 | 241 - 71  | 17455 | Pro-49 to Lys-57.  |  | AR050: 2, AR051: 0<br>S0053: 1      |       |  |
| HNHDC29  | 904546 | 7704 | 24 - 215  | 17456 | Gly-1 to Gly-15,<br>Gly-18 to His-26,<br>Pro-43 to Gly-62.                       |  | S0053: 1                            | 17q21 | 109270, 109270,<br>109270, 109270,<br>109270, 113705,<br>113705, 144200,<br>148065, 148066,<br>148066, 148067,<br>148067, 148069,<br>148080, 154275,<br>168610, 171190,<br>176705, 185800,<br>200350, 221820,<br>232200, 249000,<br>252920, 253250,<br>600119, 600119,<br>601363, 601844 |
| HNHDB69  | 757760 | 7705 | 207 - 416 | 17457 |  |  | S0053: 1 and L0756: 1.              |       |  |
| HNHCZ84  | 782897 | 7706 | 317 - 105 | 17458 |  |  | S0053: 1                            |       |  |
|          | 782898 | 9643 | 99 - 290  | 19395 | Val-36 to Gly-43.  |  |                                     |       |  |

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|         | 782939 | 9644 | 453 - 265 | 19396 | Thr-5 to Glu-11,<br>Lys-28 to Arg-36.                      |   |  |  |
| HNHCY96 | 796547 | 7707 | 428 - 697 | 17459 | Thr-72 to Pro-77,<br>Pro-82 to Phe-87.                     | S0053: 1  |  |  |
| HNHCY07 | 953878 | 7708 | 49 - 339  | 17460 | Pro-1 to Val-7,<br>Asp-19 to Tyr-25,<br>Lys-39 to Phe-46.  | S0053: 1 and L0780: 1.  |  |  |
| HNHCY06 | 936061 | 7709 | 40 - 150  | 17461 |  | S0053: 1 and L0759: 1.  |  |  |
| HNHCU08 | 959944 | 7710 | 154 - 294 | 17462 |  | S0053: 1 and L0599: 1.  |  |  |
| HNHCO94 | 796745 | 7711 | 145 - 267 | 17463 |  | S0053: 1 and L0600: 1.  |  |  |
| HNHCO69 | 754189 | 7712 | 12 - 362  | 17464 |  | S0053: 1 and L0777: 1.  |  |  |
| HNHCO39 | 705641 | 7713 | 55 - 294  | 17465 | Arg-18 to Val-23.  | S0053: 1 and L0592: 1.  |  |  |
| HNHCM69 | 757751 | 7714 | 196 - 366 | 17466 | Cys-8 to Cys-16.   | S0053: 1 and L0748: 1.  |  |  |
| HNHCJ11 | 964952 | 7715 | 89 - 211  | 17467 | Leu-9 to Trp-14.   | S0053: 1  |  |  |
| HNHC132 | 861673 | 7716 | 183 - 593 | 17468 | Lys-17 to Thr-23,<br>His-95 to Thr-101.                    | AR051: 23, AR050: 14,<br>AR061: 10, AR054: 4,<br>AR089: 3<br>S0053: 1 |  |  |
|         | 956105 | 9645 | 963 - 553 | 19397 | Lys-17 to Thr-23,<br>His-95 to Thr-101.                    |   |  |  |
| HNHCG43 | 574074 | 7717 | 10 - 168  | 17469 | Thr-31 to Gly-37.  | S0053: 1  |  |  |
| HNHCG32 | 574080 | 7718 | 90 - 161  | 17470 | Ser-6 to Lys-14.   | S0053: 1  |  |  |
| HNHCD33 | 702679 | 7719 | 488 - 655 | 17471 |  | L0748: 6 and S0053: 1.  |  |  |
| HNHCA27 | 668255 | 7720 | 268 - 465 | 17472 |  | AR054: 16, AR051: 16,<br>AR050: 3<br>S0053: 1                         |  |  |
| HNHBZ39 | 860113 | 7721 | 114 - 284 | 17473 |  | AR054: 19, AR050: 18,<br>AR051: 13<br>S0053: 1                        |  |  |
| HNHBX96 | 796539 | 7722 | 61 - 252  | 17474 | Thr-8 to Phe-18,<br>Ser-23 to Asn-34,<br>Ala-37 to Leu-46. | S0053: 1 and L0748: 1.  |  |  |
| HNHBW54 | 583752 | 7723 | 186 - 299 | 17475 |  | S0053: 1  |  |  |
|         | 840101 | 9646 | 235 - 2   | 19398 | Arg-1 to Ala-9,<br>Phe-18 to Asp-27.                       |   |  |  |
| HNHBU02 | 920662 | 7724 | 74 - 280  | 17476 |  | S0053: 1 and L0589: 1.  |  |  |

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| HNHBO78 | 574093 | 7725 | 2 - 160   | 17477 |  |  | S0053: 1  |   |  |
| HNHBK57 | 490789 | 7726 | 296 - 60  | 17478 |  |  | S0053: 1  |   |  |
|         | 513489 | 9647 | 2 - 211   | 19399 |  |  |   |   |  |
| HNHBI48 | 860125 | 7727 | 243 - 533 | 17479 |  |  | S0053: 1  |   |  |
| HNHBI02 | 918387 | 7728 | 686 - 474 | 17480 |  |  | S0053: 1  |   |  |
|         | 919069 | 9648 | 314 - 3   | 19400 |  | His-34 to Ser-44,<br>Cys-80 to Glu-86,<br>Pro-95 to Gly-101. |   |   |  |
| HNHBG42 | 714044 | 7729 | 241 - 351 | 17481 |  | Arg-21 to Gln-30.  | S0053: 1, L0740: 1 and<br>L0777: 1.   |   |  |
| HNHBF78 | 773747 | 7730 | 76 - 300  | 17482 |  |  | S0053: 1 and L0589: 1.  |   |  |
| HNHBF47 | 949027 | 7731 | 923 - 501 | 17483 |  | His-1 to Thr-14.   | AR051: 11, AR054: 8,<br>AR050: 7, AR061: 1,<br>AR089: 0<br>S0053: 1           | 1 |  |
| HNHBE75 | 766526 | 7732 | 82 - 243  | 17484 |  | Cys-3 to Leu-20.   | L0439: 2 and S0053: 1.  |   |  |
| HNHBD73 | 764293 | 7733 | 259 - 134 | 17485 |  | His-1 to Tyr-7,<br>Ser-17 to Gly-24.                         | S0053: 1  |   |  |
| HNHBC77 | 772452 | 7734 | 67 - 273  | 17486 |  |  | S0053: 1 and L0750: 1.  |   |  |
| HNHAP69 | 574295 | 7735 | 58 - 270  | 17487 |  | Asn-2 to Arg-9.  | S0053: 1  |   |  |
| HNHAP55 | 574386 | 7736 | 2 - 163   | 17488 |  | Ala-1 to His-11.   | S0053: 1  |   |  |
| HNHAP32 | 574393 | 7737 | 99 - 281  | 17489 |  |  | S0053: 1  |   |  |
| HNHAP08 | 959961 | 7738 | 132 - 239 | 17490 |  |  | S0053: 1  |   |  |
| HNHAM81 | 574402 | 7739 | 1 - 90    | 17491 |  | Asn-20 to Gln-30.  | S0053: 1  |   |  |
| HNHAM80 | 574404 | 7740 | 56 - 160  | 17492 |  |  | S0053: 1  |   |  |
| HNHAM33 | 571334 | 7741 | 3 - 95    | 17493 |  | Thr-1 to Lys-6,<br>Leu-22 to Leu-30.                         | L0633: 3 and S0053: 1.  |   |  |
| HNHAK41 | 890594 | 7742 | 2 - 166   | 17494 |  |  | AR050: 14, AR051: 12,<br>AR054: 2<br>S0053: 1                                 |   |  |
| HNHAI41 | 712605 | 7743 | 66 - 233  | 17495 |  |  | L0745: 3 and S0053: 1.  |   |  |
| HNHAI07 | 954088 | 7744 | 1 - 168   | 17496 |  | Arg-1 to Asp-16,<br>Leu-27 to Gly-32.                        | L0761: 1 and S0053: 1.  |   |  |
| HNHAF61 | 742116 | 7745 | 189 - 686 | 17497 |  | Pro-5 to Trp-10,<br>Glu-62 to Gly-67,<br>Ala-124 to Asn-129. | AR061: 6, AR089: 3<br>L0438: 2, L0439: 2, L0752:<br>2, L0365: 1 and S0053: 1. |   |  |

|         | 955094 | 9649 | 378 - 1   | 19401 | Thr-56 to Pro-64,<br>Pro-77 to Thr-87,<br>Thr-95 to Glu-100,<br>Asp-112 to Thr-118. |   |  |  |
|---------|--------|------|-----------|-------|---|---|--|--|
| HNHAE19 | 527975 | 7746 | 429 - 112 | 17498 | Arg-24 to Lys-37,<br>Ser-59 to Pro-70.  | L0766: 5, L0788: 1, S0053:<br>1 and L0747: 1.             |  |  |
| HNHAB36 | 596822 | 7747 | 913 - 653 | 17499 | Arg-19 to Arg-26,<br>Gly-44 to Thr-55,<br>Glu-68 to His-75,<br>Trp-82 to Asp-87.    | S0053: 1  |  |  |
|         | 946565 | 9650 | 199 - 2   | 19402 |   |   |  |  |
|         | 946634 | 9651 | 3 - 170   | 19403 | Thr-6 to Cys-17,<br>Gly-23 to Gly-28.   |   |  |  |
| HNHAB15 | 973675 | 7748 | 420 - 623 | 17500 | Cys-1 to Ser-6.   | S0053: 1  |  |  |
| HNGPR43 | 860142 | 7749 | 2 - 304   | 17501 |   | S0428: 1 and L0600: 1.                                    |  |  |
| HNGPP74 | 974046 | 7750 | 303 - 557 | 17502 | Gln-1 to Ser-6,<br>Asp-30 to Lys-35.  | S0428: 1  |  |  |
| HNGPN54 | 947104 | 7751 | 478 - 113 | 17503 | Pro-16 to Ala-31,<br>Pro-59 to Gly-85,<br>Pro-87 to Pro-96.                         | AR061: 4, AR089: 1<br>S0428: 1                            |  |  |
| HNGPM65 | 972821 | 7752 | 64 - 270  | 17504 | Arg-1 to Lys-6,<br>Ile-14 to Asn-22.  | S0428: 1  |  |  |
| HNGPL75 | 950134 | 7753 | 870 - 559 | 17505 |   | AR061: 7, AR089: 3<br>L0766: 1, S0428: 1 and<br>L0592: 1. |  |  |
| HNGPL05 | 974049 | 7754 | 43 - 270  | 17506 |   | S0428: 1  |  |  |
| HNGPI87 | 860162 | 7755 | 229 - 426 | 17507 |   | S0428: 1 and L0589: 1.                                    |  |  |
| HNGPH83 | 974045 | 7756 | 1 - 147   | 17508 | Tyr-4 to Ile-16.  | S0428: 1  |  |  |
| HNGOZ40 | 969158 | 7757 | 13 - 330  | 17509 | Gln-5 to Phe-15,<br>Pro-32 to Ala-39,<br>Pro-49 to Tyr-67.                          | S0428: 1 and L0588: 1.                                    |  |  |
| HNGOY68 | 860169 | 7758 | 2 - 343   | 17510 | Gly-21 to Leu-30,<br>Pro-51 to Ser-56,<br>Thr-62 to Ala-67.                         | L0761: 1 and S0428: 1.                                    |  |  |
| HNGOY32 | 954991 | 7759 | 243 - 590 | 17511 |   | L0365: 1 and S0428: 1.                                    |  |  |
| HNGOP63 | 973415 | 7760 | 126 - 557 | 17512 | Pro-22 to Leu-30.   | S0428: 1  |  |  |

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| HNGOP40 | 860182 | 7761 | 102 - 326 | 17513 | Ser-7 to Ala-14,<br>Arg-25 to His-31,<br>Pro-48 to Gly-62,<br>Gln-68 to Lys-75.  | S0428: 1 and L0589: 1.                        |  |  |
| HNGOO88 | 860179 | 7762 | 95 - 271  | 17514 |  | S0428: 1 and L0748: 1.                        |  |  |
| HNGON56 | 974038 | 7763 | 520 - 738 | 17515 | Glu-1 to Leu-11.   | S0428: 1                                      |  |  |
| HNGON24 | 860183 | 7764 | 205 - 468 | 17516 |  | L0369: 1 and S0428: 1.                        |  |  |
| HNGOK04 | 972752 | 7765 | 3 - 611   | 17517 | Thr-6 to Ser-13,<br>Leu-52 to Gly-61,<br>Arg-66 to Arg-72,<br>Arg-131 to Pro-136,<br>Arg-145 to Tyr-150,<br>Gly-163 to Ser-168,<br>Ala-186 to Gly-193. | S0428: 1                                      |  |  |
| HNGOF70 | 860195 | 7766 | 7 - 243   | 17518 |  | L0766: 2 and S0428: 1.                        |  |  |
| HNGNY72 | 860198 | 7767 | 167 - 385 | 17519 | Met-20 to Gly-26.  | L0385: 1 and S0428: 1.                        |  |  |
| HNGNY16 | 806017 | 7768 | 312 - 590 | 17520 | Pro-35 to Trp-43.  | S0428: 1 and L0756: 1.                        |  |  |
| HNGNY02 | 918626 | 7769 | 42 - 470  | 17521 | Gln-1 to Gly-9,<br>Gly-40 to Asn-53,<br>Arg-67 to Gln-72,<br>His-100 to Trp-107,<br>Arg-135 to Pro-140.  | L0385: 1, L0365: 1 and<br>S0428: 1.           |  |  |
| HNGNX66 | 974035 | 7770 | 391 - 618 | 17522 | Gly-1 to Val-30,<br>Lys-37 to Glu-53.  | S0428: 1                                      |  |  |
| HNGNU85 | 974037 | 7771 | 262 - 594 | 17523 | Arg-27 to Ser-32.  | S0428: 1                                      |  |  |
| HNGNS91 | 973432 | 7772 | 245 - 496 | 17524 | Lys-30 to Asp-37.  | S0428: 1                                      |  |  |
| HNGNN81 | 974124 | 7773 | 96 - 287  | 17525 | Leu-3 to Gly-13,<br>Ala-17 to Pro-26,<br>Glu-44 to Lys-49.   | S0428: 1                                      |  |  |
| HNGNN01 | 915226 | 7774 | 282 - 512 | 17526 |  | S0428: 1 and L0758: 1.                        |  |  |
| HNGNJ46 | 860212 | 7775 | 135 - 470 | 17527 | Leu-12 to Cys-19,<br>Gln-27 to Asn-35.   | L0779: 2, L0663: 1, S0428:<br>1 and L0747: 1. |  |  |
| HNGNI78 | 860216 | 7776 | 186 - 380 | 17528 | Pro-38 to Trp-44.  | S0428: 1 and L0596: 1.                        |  |  |
| HNGND75 | 974968 | 7777 | 169 - 450 | 17529 | Pro-3 to Gln-13,<br>Gly-39 to Cys-44,<br>Thr-57 to Trp-66.   | S0428: 1                                      |  |  |

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| HNGND01 | 915294 | 7778 | 446 - 580 |       | Thr-81 to Ser-87.                       |  | S0428: 1 and L0749: 1.   |  |
| HNGNA49 | 974907 | 7779 | 371 - 592 | 17530 |   |  | S0428: 1   |  |
| HNGMY91 | 974056 | 7780 | 282 - 575 | 17531 | Val-23 to Gly-29,<br>Ser-48 to Cys-58.  |  | S0428: 1   |  |
| HNGMW65 | 950173 | 7781 | 295 - 26  | 17532 | Ile-26 to Thr-37.                       |  | AR089: 119, AR061: 16<br>S0428: 1                                    |  |
| HNGMT40 | 930430 | 7782 | 2 - 151   | 17533 |   |  | L0662: 1, S0428: 1 and<br>L0759: 1.                                  |  |
| HNGMM11 | 966099 | 7783 | 40 - 375  | 17534 | Pro-1 to Leu-13,<br>Pro-19 to Pro-27.   |  | S0428: 1 and L0777: 1.   |  |
| HNGML12 | 934389 | 7784 | 3 - 179   | 17535 |   |  | L0761: 1, L0766: 1, S0428:<br>1 and L0756: 1.                        |  |
| HNGMF02 | 955660 | 7785 | 394 - 642 | 17536 |   |  | L0809: 2, L0783: 1, L0791:<br>1, S0428: 1, L0740: 1 and<br>L0752: 1. |  |
| HNGME04 | 927020 | 7786 | 200 - 592 | 17537 |   |  | S0428: 1, L0748: 1 and<br>L0749: 1.                                  |  |
| HNGMD92 | 790887 | 7787 | 71 - 247  | 17538 | Arg-39 to Asp-56.                       |  | S0428: 1 and L0361: 1.   |  |
| HNGMD48 | 974358 | 7788 | 215 - 400 | 17539 |   |  | S0428: 1   |  |
| HNGMC01 | 915310 | 7789 | 525 - 830 | 17540 | Gln-50 to Ser-61.                       |  | L0747: 3 and S0428: 1.   |  |
| HNGLY12 | 968919 | 7790 | 260 - 439 | 17541 | Thr-8 to Leu-13,<br>Glu-22 to Asn-32.   |  | S0428: 1 and L0758: 1.   |  |
| HNGLY08 | 948825 | 7791 | 81 - 425  | 17542 | Asn-80 to Ser-86,<br>Phe-98 to Glu-105. |  | AR051: 17, AR050: 9,<br>AR054: 7<br>S0428: 1                         |  |
| HNGLS90 | 787446 | 7792 | 253 - 438 | 17543 | Ala-26 to Ala-31,<br>Ser-57 to Arg-62.  |  | S0428: 1, L0748: 1 and<br>L0749: 1.                                  |  |
| HNGLR54 | 972812 | 7793 | 314 - 508 | 17544 | Pro-20 to Gln-25,<br>Glu-55 to Ala-60.  |  | S0428: 1   |  |
| HNGLO21 | 974067 | 7794 | 165 - 479 | 17545 | Pro-22 to Thr-28,<br>Arg-35 to Pro-44.  |  | S0428: 1   |  |
| HNGLL07 | 952236 | 7795 | 3 - 146   | 17546 |   |  | S0428: 1 and L0731: 1.   |  |
| HNGLK36 | 974584 | 7796 | 402 - 557 | 17547 | Gln-7 to Asp-21,<br>Glu-27 to Gly-37.   |  | S0428: 1   |  |
| HNGKY10 | 963459 | 7797 | 58 - 156  | 17548 |   |  | L0659: 1 and S0428: 1.   |  |

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| HNGKS34 | 974368 | 7798 | 189 - 356 | 17550 | Glu-36 to Pro-42.   | S0428: 1   |  |
| HNGKQ80 | 860306 | 7799 | 90 - 377  | 17551 | Val-20 to Glu-27.   | S0428: 1 and L0589: 1.   |  |
| HNGKO32 | 860307 | 7800 | 118 - 414 | 17552 | Pro-4 to Ala-9,<br>Val-18 to Trp-30,<br>His-48 to Leu-59,<br>Phe-91 to Asn-99.                        | S0428: 1, L0748: 1 and<br>L0749: 1.  |  |
| HNGKM74 | 942758 | 7801 | 2 - 988   | 17553 | Phe-148 to Lys-155,<br>Arg-162 to Glu-168,<br>Arg-205 to Thr-213,<br>Pro-235 to Leu-241.              | AR051: 17, AR050: 17,<br>AR061: 7, AR089: 3,<br>AR054: 3<br>L0800: 1 and S0428: 1. |  |
| HNGKL24 | 974360 | 7802 | 319 - 540 | 17554 |   | S0428: 1   |  |
| HNGKJ02 | 918622 | 7803 | 375 - 647 | 17555 | Gly-23 to Pro-28,<br>Pro-31 to Asp-36,<br>Ala-38 to Trp-59,<br>His-71 to Gln-76,<br>Lys-79 to Glu-86. | S0428: 1 and L0731: 1.   |  |
| HNGKH07 | 952210 | 7804 | 104 - 247 | 17556 | Pro-2 to Thr-9.   | L0655: 1 and S0428: 1.   |  |
| HNGKG03 | 922036 | 7805 | 120 - 323 | 17557 |   | L0518: 1 and S0428: 1.   |  |
| HNGKD49 | 974364 | 7806 | 295 - 444 | 17558 |   | S0428: 1   |  |
| HNGKC69 | 834922 | 7807 | 137 - 418 | 17559 | Lys-29 to Thr-40,<br>Arg-58 to Leu-65,<br>Gln-67 to Arg-80,<br>Ser-85 to Asp-92.                      | AR051: 14, AR054: 4,<br>AR050: 1<br>S0428: 1                                       |  |
| HNGKC21 | 974581 | 7808 | 102 - 233 | 17560 |   | S0428: 1   |  |
| HNGKC06 | 934309 | 7809 | 3 - 431   | 17561 | Ser-21 to Lys-29,<br>Gln-31 to His-37.  | S0428: 1 and L0758: 1.   |  |
| HNGKA11 | 966117 | 7810 | 118 - 300 | 17562 |   | L0787: 1, S0428: 1 and<br>L0592: 1.  |  |
| HNGJV82 | 778921 | 7811 | 305 - 439 | 17563 | Gly-14 to Arg-21,<br>Gln-31 to Gln-37.  | S0052: 1 and L0592: 1.   |  |
| HNGJR05 | 860357 | 7812 | 212 - 460 | 17564 | Ser-16 to Asp-27,<br>Arg-37 to Gly-44.  | S0052: 1 and L0589: 1.   |  |
| HNGIQ96 | 796414 | 7813 | 37 - 282  | 17565 | Thr-24 to Thr-29,<br>Thr-42 to Lys-47,<br>Ala-52 to Asn-64.   | S0052: 1   |  |
| HNGIQ36 | 708121 | 7814 | 45 - 242  | 17566 | Pro-46 to Gly-53.   | S0052: 1   |  |



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| HNGJQ08 | 959511 | 7815 | 26 - 103  | 17567 |  |  | S0052: 1                                       |  |  |
| HNGJL47 | 720363 | 7816 | 3 - 404   | 17568 | Arg-31 to Ser-37,<br>Pro-39 to Pro-45.   |  | L0771: 8, L0591: 2, L0788:<br>1 and S0052: 1.  |  |  |
| HNGJK64 | 746615 | 7817 | 22 - 147  | 17569 | Ser-19 to Leu-26,<br>Leu-30 to Gln-35.   |  | S0052: 1                                       |  |  |
| HNGJK63 | 839947 | 7818 | 2 - 181   | 17570 |  |  | S0052: 1 and L0758: 1.                         |  |  |
| HNGJK40 | 711219 | 7819 | 138 - 380 | 17571 | Thr-26 to Gly-31.  |  | S0052: 1                                       |  |  |
| HNGJI40 | 711211 | 7820 | 2 - 385   | 17572 | Ala-6 to Gly-11,<br>Phe-21 to Leu-28,<br>Cys-45 to Ile-53.   |  | S0052: 1                                       |  |  |
| HNGJI04 | 615285 | 7821 | 3 - 164   | 17573 | Gly-34 to Phe-41.  |  | S0052: 1                                       |  |  |
| HNGJG75 | 942946 | 7822 | 90 - 662  | 17574 | His-1 to Phe-14,<br>Gln-18 to Arg-24,<br>Ser-44 to His-49,<br>Phe-121 to Asp-131,<br>Ser-149 to Thr-174.                 |  | AR061: 4, AR089: 1<br>S0052: 1                 |  |  |
|         | 951158 | 9652 | 469 - 251 | 19404 |  |  |  |  |  |
| HNGJG35 | 422897 | 7823 | 393 - 253 | 17575 |  |  | S0052: 1                                       |  |  |
| HNGJE38 | 495689 | 7824 | 630 - 109 | 17576 |  |  | S0052: 1 and L0758: 1.                         |  |  |
|         | 860403 | 9653 | 95 - 379  | 19405 | Pro-39 to Cys-52.  |  |  |  |  |
| HNGJE23 | 600366 | 7825 | 634 - 467 | 17577 | Tyr-17 to Lys-22,<br>Gly-46 to Thr-54.   |  | S0052: 1                                       |  |  |
|         | 860413 | 9654 | 463 - 296 | 19406 | Lys-6 to Leu-12.   |  |  |  |  |
| HNGJE08 | 973790 | 7826 | 392 - 547 | 17578 | Pro-40 to Glu-50.  |  | S0052: 1                                       |  |  |
| HNGJE01 | 973797 | 7827 | 392 - 529 | 17579 |  |  | S0052: 1                                       |  |  |
| HNGJC68 | 888447 | 7828 | 103 - 348 | 17580 |  |  | AR051: 86, AR050: 64,<br>AR054: 54<br>S0052: 1 |  |  |
| HNGJC29 | 695660 | 7829 | 96 - 425  | 17581 | Trp-1 to Arg-8,<br>Gln-14 to Thr-21,<br>Ser-39 to Gly-51,<br>Arg-65 to Gln-72,<br>Ser-80 to Gln-85,<br>His-90 to Gly-96. |  | S0052: 1 and L0747: 1.                         |  |  |
| HNGJB49 | 723004 | 7830 | 3 - 302   | 17582 | His-7 to Gly-22,<br>His-62 to Asn-71.  |  | L0748: 5, S0052: 1 and<br>L0749: 1.            |  |  |

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| HNGIA75 | 888461 | 7831 | 95 - 256  | 17583 | Thr-17 to Leu-26,<br>Gly-47 to Gly-53.   | AR051: 25, AR050: 16,<br>AR054: 1<br>S0052: 1    |        |                |
| HNGIX71 | 760398 | 7832 | 3 - 293   | 17584 | His-30 to Gln-37.  | L0748: 2 and S0052: 1.                           |        |                |
| HNGIW45 | 717698 | 7833 | 1 - 198   | 17585 | Ser-46 to Lys-56.  | S0052: 1   |        |                |
| HNGIS92 | 792748 | 7834 | 1 - 540   | 17586 |  | S0052: 1 and L0439: 1.                           |        |                |
| HNGIS70 | 757216 | 7835 | 373 - 621 | 17587 | Ser-66 to Ser-73.  | S0052: 1 and L0740: 1.                           |        |                |
| HNGIS02 | 920221 | 7836 | 327 - 542 | 17588 | Ser-15 to Lys-24.  | L0769: 1 and S0052: 1.                           |        |                |
| HNGIR10 | 964715 | 7837 | 317 - 496 | 17589 | Pro-7 to Phe-12.   | L0769: 3 and S0052: 1.                           |        |                |
| HNGIQ78 | 772866 | 7838 | 112 - 324 | 17590 | Asp-6 to Ser-20,<br>Arg-46 to Phe-53,<br>Pro-60 to Leu-67.                     | S0052: 1   |        |                |
| HNGIQ71 | 773431 | 9655 | 586 - 365 | 19407 |  |  |        |                |
|         | 495771 | 7839 | 487 - 176 | 17591 | Ala-1 to Cys-7,<br>Gln-21 to Gly-40,<br>Pro-49 to Gly-54,<br>Ser-72 to Trp-91. | S0052: 1   |        |                |
| HNGIP47 | 860506 | 9656 | 308 - 658 | 19408 |  |  |        |                |
| HNGIP27 | 720374 | 7840 | 247 - 450 | 17592 | His-15 to Met-25.  | S0052: 1 and L0589: 1.                           |        |                |
| HNGIO64 | 860515 | 7841 | 210 - 476 | 17593 |  | S0052: 1   |        |                |
| HNGIO52 | 487439 | 7842 | 231 - 401 | 17594 |  | S0052: 1   |        |                |
|         | 927636 | 9657 | 396 - 280 | 19409 | Ala-15 to Arg-22.  |  |        |                |
| HNGIL94 | 727196 | 7843 | 207 - 422 | 17595 |  | S0052: 1 and L0756: 1.                           |        |                |
| HNGIL84 | 793171 | 7844 | 123 - 326 | 17596 | Pro-15 to Arg-22.  | S0052: 1   |        |                |
| HNGIL82 | 781970 | 7845 | 50 - 340  | 17597 |  | L0747: 2 and S0052: 1.                           |        |                |
| HNGIL51 | 812699 | 7846 | 174 - 368 | 17598 | Ile-3 to Trp-14,<br>Glu-54 to Asn-65.  | S0052: 1   |        |                |
|         | 725003 | 7847 | 1 - 249   | 17599 | Gly-1 to Glu-8,<br>Thr-37 to Arg-47,<br>Pro-57 to Arg-62,<br>Pro-78 to Thr-83. | S0052: 1   | 2p11.2 | 178640, 216900 |
| HNGIL22 | 860525 | 7848 | 76 - 306  | 17600 | Ala-1 to Thr-6.  |  |        |                |
| HNGIJ51 | 868068 | 7849 | 178 - 348 | 17601 | Thr-9 to Cys-14,<br>Lys-38 to Arg-45.  | L0527: 1 and S0052: 1.<br>L0752: 2 and S0052: 1. |        |                |
| HNGHY44 | 973977 | 7850 | 245 - 424 | 17602 | Asp-25 to Gly-32.  | S0052: 1   |        |                |

|         |        |      |           |       |   |  |  |  |
|---------|--------|------|-----------|-------|---|--|--|--|
| HNGHO94 | 793271 | 7851 | 1 - 219   | 17603 | Asn-1 to His-10,<br>Pro-53 to Ala-72.   | S0052: 1   |  |  |
| HNGHMG1 | 576221 | 7852 | 39 - 236  | 17604 | Pro-4 to His-18,<br>Pro-28 to Arg-39,<br>Gln-53 to Gly-58.                      | S0052: 1   |  |  |
| HNGHL46 | 860541 | 7853 | 291 - 476 | 17605 |   | S0052: 1   |  |  |
| HNGHJ01 | 916757 | 7854 | 1 - 204   | 17606 | Gln-1 to Asp-9,<br>Asp-19 to Gly-25,<br>His-58 to Ala-65.                       | S0052: 1 and L0758: 1.   |  |  |
| HNGHG39 | 860554 | 7855 | 3 - 248   | 17607 | His-1 to Met-8.   | S0052: 1 and L0366: 1.   |  |  |
| HNGHD68 | 576315 | 7856 | 246 - 1   | 17608 |   | S0052: 1   |  |  |
| HNGGV02 | 920377 | 7857 | 212 - 430 | 17609 |   | S0052: 1   |  |  |
| HNGGT08 | 959649 | 7858 | 44 - 193  | 17610 |   | S0052: 1 and L0748: 1.   |  |  |
| HNGGP91 | 576251 | 7859 | 1 - 360   | 17611 |   | L0743: 2 and S0052: 1.   |  |  |
| HNGGP55 | 578450 | 7860 | 91 - 186  | 17612 |   | S0052: 1   |  |  |
| HNGGL74 | 765644 | 7861 | 828 - 487 | 17613 | Tyr-21 to Tyr-26,<br>His-36 to Lys-44,<br>Leu-70 to Gly-76.                     | AR050: 136, AR054: 117,<br>AR051: 105<br>S0052: 1  |  |  |
| HNGGF86 | 860568 | 7862 | 247 - 426 | 17614 | Thr-1 to His-11.  | S0052: 1   |  |  |
| HNGGB58 | 738213 | 7863 | 16 - 156  | 17615 |   | S0052: 1 and L0754: 1.   |  |  |
| HNGGB28 | 703315 | 7864 | 2 - 199   | 17616 | Ala-1 to Ala-10,<br>Pro-12 to Ser-19,<br>Asp-31 to Gly-44,<br>Pro-49 to Arg-66. | S0052: 1   |  |  |
| HNGFX89 | 506492 | 7865 | 202 - 468 | 17617 | Asn-13 to Ala-19.   | AR050: 19, AR051: 15,<br>AR054: 8<br>S0052: 1  |  |  |
|         | 578679 | 9658 | 34 - 144  | 19410 |   |  |  |  |
|         | 578680 | 9659 | 529 - 413 | 19411 |   |  |  |  |
| HNGFX75 | 608695 | 7866 | 394 - 630 | 17618 |   | S0052: 1   |  |  |
| HNGFU33 | 702584 | 7867 | 472 - 663 | 17619 | Gly-2 to Phe-8,<br>Pro-17 to Asn-22,<br>Met-56 to Gly-62.                       | L0747: 3, L0803: 2, L0659:<br>2, L0666: 2, L0662: 1,<br>L0546: 1, S0052: 1, L0750:<br>1, L0779: 1, L0752: 1 and<br>L0758: 1. |  |  |
| HNGFT02 | 920480 | 7868 | 212 - 319 | 17620 |   | S0052: 1 and L0747: 1.   |  |  |

|         |        |      |             |       |   |  |  |  |
|---------|--------|------|-------------|-------|---|--|--|--|
| HNGFR06 | 935821 | 7869 | 2 - 421     | 17621 | Leu-41 to Glu-52.   | S0052: 1, L0439: 1 and L0754: 1.         |  |  |
| HNGFP92 | 842276 | 7870 | 439 - 621   | 17622 | Gly-1 to Asp-7, Ala-17 to Gly-22.   | S0052: 1                                 |  |  |
|         | 889744 | 9660 | 140 - 442   | 19412 | Thr-3 to Ala-33, Ala-44 to Cys-49, Phe-64 to Trp-71, Ala-84 to Arg-89, Ala-94 to Ser-101. |  |  |  |
| HNGFN70 | 872950 | 7871 | 3 - 191     | 17623 | Ser-10 to Asn-17, Gly-32 to Lys-44.   | AR051: 41, AR050: 40, AR054: 33 S0052: 1 |  |  |
| HNGFM17 | 664280 | 7872 | 345 - 635   | 17624 | Leu-11 to Glu-19, Gly-27 to Ala-36, Ser-45 to Ser-59.                                     | S0052: 1 and L0748: 1.                   |  |  |
| HNGFK34 | 703419 | 7873 | 1 - 309     | 17625 | Thr-2 to Trp-9, Val-33 to Leu-38, Gly-43 to Cys-51.                                       | L0518: 1 and S0052: 1.                   |  |  |
| HNGFI11 | 967304 | 7874 | 1 - 285     | 17626 | Glu-63 to Ser-68, Asp-75 to Pro-82.   | L0517: 1 and S0052: 1.                   |  |  |
| HNGFH90 | 789066 | 7875 | 45 - 317    | 17627 | Gln-11 to Gln-16, Ser-24 to Arg-29, Ser-39 to Gly-45.                                     | S0052: 1 and L0594: 1.                   |  |  |
| HNGFH58 | 738240 | 7876 | 1 - 201     | 17628 | Lys-30 to Met-35, Pro-49 to Gly-56, His-72 to Ser-77, Ala-82 to Gly-92.                   | L0748: 2 and S0052: 1.                   |  |  |
| HNGFH30 | 823363 | 7877 | 2582 - 2280 | 17629 | Lys-30 to Met-35, Pro-49 to Gly-56, His-72 to Ser-77, Ala-82 to Gly-92.                   | AR050: 17, AR054: 1 S0052: 1             |  |  |
|         | 824134 | 9661 | 227 - 649   | 19413 | Lys-30 to Met-35, Pro-49 to Gly-56.   |  |  |  |
|         | 854048 | 9662 | 2 - 79      | 19414 | Lys-1 to Leu-12.  |  |  |  |
| HNGFG10 | 968059 | 7878 | 800 - 1042  | 17630 | Ser-64 to His-69.   | L0747: 3, L0589: 2 and S0052: 1.         |  |  |
| HNGFF50 | 941480 | 7879 | 1 - 342     | 17631 | Ala-3 to Thr-11, Ala-33 to His-43, Gly-67 to Leu-74.                                      | S0052: 1                                 |  |  |